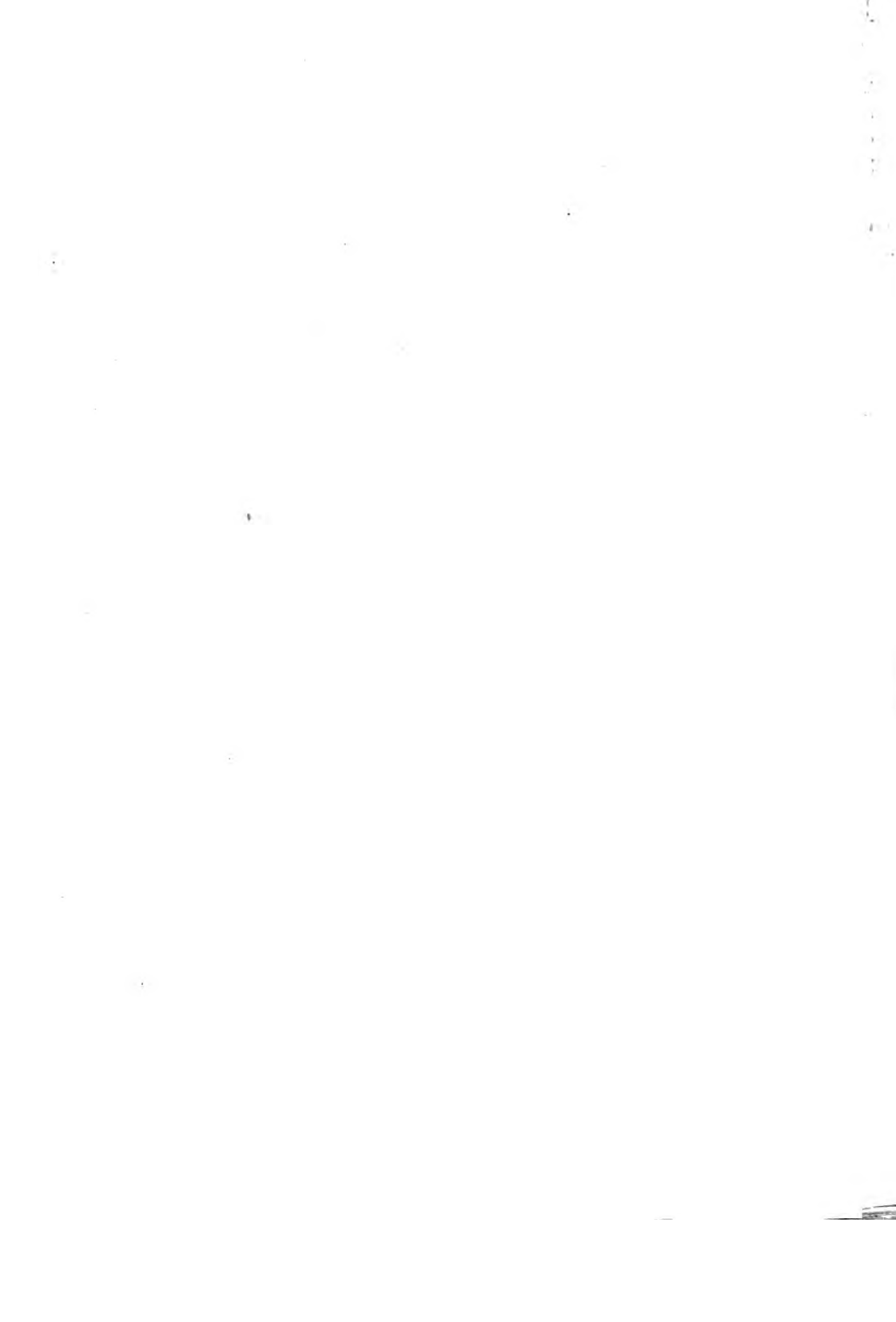
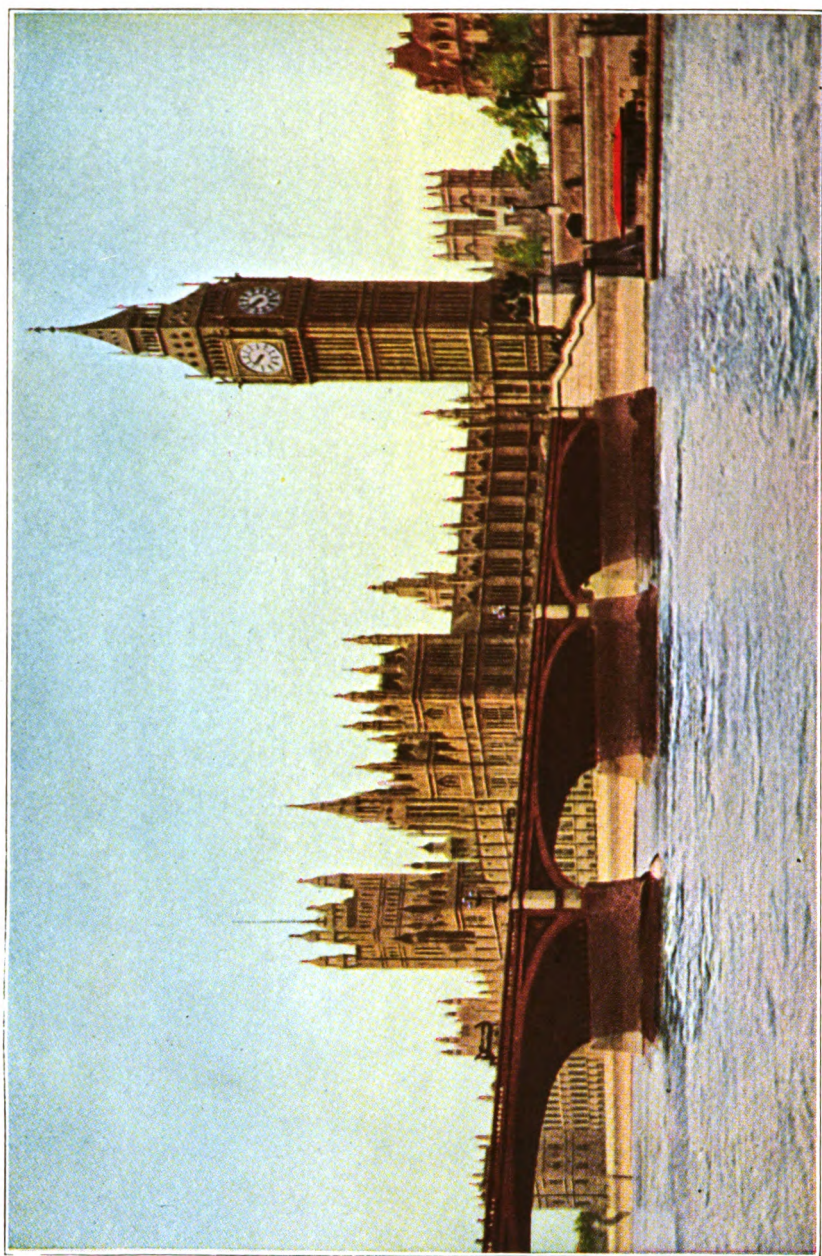


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24 years, and greatly increased trade and commerce; but his avarice was excessive. He died in 1509.

Henry VIII., born in 1491; succeeded his father, Henry VII., at the age of 19. The first years of his reign were auspicious owing to his generosity; but at length his conduct grew capricious and arbitrary. The Emperor Maximilian and Pope Julius II., having leagued against France, persuaded Henry to join them, and he, in consequence, invaded that kingdom, where he made some conquests. About the same time, James IV., King of Scotland, invaded England, but was defeated and slain at Flodden Field. Cardinal Wolsey succeeded in bringing Henry over from the imperial interests to those of the French king. When Luther commenced his reformation in Germany, Henry wrote a book against him, for which he was complimented by the Pope with the title of "Defender of the Faith." But this attachment to the Roman see did not last long; for, having conceived an affection for Anne Boleyn, he determined to divorce his wife, Catharine of Aragon, to whom he had been married 18 years. His plea for the divorce was that Catharine was his brother Arthur's widow. The divorce being refused by the Pope, Henry assumed the title of Supreme Head of the English Church, put down the monasteries, and alienated their possessions to secular purposes. His marriage with Anne Boleyn followed; but he afterward sent her to the scaffold, and married Lady Jane Seymour, who died in childbed. He next married Anne of Cleves; but she not proving agreeable to his expectations, he put her away, and caused Cromwell, Earl of Essex, the projector of the match, to be beheaded. His next wife was Catharine Howard, who was beheaded for adultery; after which he espoused Catharine Parr, who survived him. He was a man of strong passions and considerable learning. The historian Froude has vindicated his memory in many respects. He died in 1547.

Henry IV. (Quatre), called The Great, King of France and Navarre; born in 1553 in Pau, in Bearn. In 1589, on the assassination of Henry III., Henry of Navarre succeeded to the throne. He had previously em-

braced the Protestant faith, but after a protracted and obstinate struggle, convinced that he should never enjoy quiet possession of the French throne, without professing the Catholic faith, Henry at length yielded to the wishes of his friends, was instructed in the doctrines of the Roman Church, and professed the Catholic faith, July 25, 1593, in the Church of St. Denis. He happily escaped an attempt to assassinate him; was solemnly anointed king at Chartres in 1594; and entered the capital amid the acclamations of the people. Henry made use of the tranquillity which followed to restore the internal prosperity of his kingdom, and particularly the wasted finances; and in this design he was highly successful, with the aid of his prime minister, Sully. To his former brothers in faith and in arms, the Protestants, he granted a certain measure of religious freedom and political security by the edict of Nantes, in 1598. In 1610, while riding through the streets of Paris, his coach was obstructed in the Rue de la Feronnierie by two wagons. A fanatic named Ravallac took advantage of the moment to perpetrate a long meditated deed; and the king received a fatal stab from the hand of this assassin, in the 52d year of his age and 22d of his reign.

Henry IV., Emperor of Germany, born in 1050, and at the death of his father, Emperor Henry III., was only five years old. His mother, Agnes, was made regent, and on her death the chief power was seized by his uncles, the Dukes of Saxony and Bavaria. Henry made war on them and threw off their yoke. He, however, offended his subjects by the licentiousness of his manners, and quarrelled with the Pope, Gregory VII., about investitures. The latter being appealed to in a subsequent dispute between Henry and the Duke of Saxony, cited Henry to his tribunal, who then deposed the Pope, to be in turn excommunicated by him. The emperor was compelled to submit, went to Canossa, where the Pope then was, and after being kept three days in the courtyard, received absolution. The quarrel was soon renewed, deposition, excommunication, and election of new popes and emperors followed. Henry's eldest son, Conrad, rebelled against him, but was

overcome, and died in Florence in 1101. He then caused his second son, **Henry**, to be elected his successor, and crowned; but the latter also rebelled, and making himself master of his father's person, in 1106, by stratagem, compelled him to abdicate the throne. **Henry IV.** died in 1106.

Henry V., the son and successor of the preceding; born in 1081. In 1106 he rebelled against his father and de-throned him, assuming the imperial crown in his stead. In 1111 he married Matilda, the daughter of **Henry I.**, King of England; and the rich dowry he received with his princess gave him the means of undertaking an expedition to demand the imperial crown from the Pope. Finding that **Pascal** refused to crown him, **Henry** caused the Pope to be conveyed away from the altar while at mass; and cut down, in the streets of Rome, all who opposed him. At length the Pope yielded, and **Henry** was crowned in 1112, without making any new concessions. Soon after his return to Germany the Pope excommunicated him; which led to a new war, the invasion of Italy, and the election of a rival Pope. Peace was not made till 1122, when the emperor renounced his claims. He died in 1125.

Henry, Prince of Prussia, a German naval officer; born in Berlin, Aug. 14, 1862; brother of Emperor **William**; married Princess **Irene**, daughter of the late Grand-duke **Ludwig IV.** of Hesse, May 24, 1888; was appointed to succeed Vice Admiral von **Diederichs** in command of the German fleet in Chinese waters, in March, 1899. Early in January, 1902, Emperor **William** requested President **Roosevelt's** permission for his daughter, **Alice**, to christen the Emperor's new yacht building in the United States. Later in the same month, after receiving the consent of President **Roosevelt**, the Emperor telegraphed an expression of his gratification, and informed the President that he had ordered his yacht, the "Hohenzollern," to be present at the ceremony, and had appointed his brother, Admiral **Prince Henry of Prussia**, to represent him on the occasion. **Prince Henry** arrived in New York city on Feb. 23 and left on March 12. He was the recipient of hearty national, municipal, and

social honors and the esteem of the American people. Died April 20, 1929.

Henry, surnamed The Navigator, a Portuguese prince; born in Oporto in 1394. The ambition of **Henry** was the discovery of unknown regions of the world. At Sagres he erected an observatory, to which he attached a school for the instruction of youthful scions of the nobility in the sciences necessary to navigation. Subsequently he dispatched some of his pupils on voyages of discovery, which resulted at last in the discovery of the Madeira Islands in 1418. **Henry's** thoughts were now directed toward the auriferous coasts of Guinea, of which he had heard from the Moors; and in 1433 one of his mariners sailed round Cape Nun, till then regarded as the farthest point of the earth, and took possession of the coasts as far S. as Cape Bojador. Next year **Henry** sent out a larger ship, which reached a point 120 miles beyond Cape Bojador; and at last, in 1440, Cape Blanco was reached. **Henry** died in 1460.

Henry of Huntingdon, an English chronicler; was brought up in the household of the Bishop of Lincoln, and about 1120 became Archdeacon of Huntingdon. His great work is a "History of the English."

Henry, Joseph, an American physicist; born in Washington, D. C., Dec. 17, 1797; received a common school education; later turned his attention to the study of science; discovered how to produce the electro-magnet, about 1827; and afterward greatly improved it. He built the first electro-magnetic telegraph, about a mile long, in 1830; designed the first electro-magnetic engine in 1831; was connected with the Smithsonian Institution in 1846-1878; was twice offered the presidency of Princeton College, and had other tempting offers to leave Washington, but refused them all to give his time to the equipment and care of the Smithsonian Institution. He was the author of "Syllabus of Lectures on Physics" (1844), and of more than 150 papers on scientific subjects. He died in Washington, D. C., May 17, 1878.

Henry, Patrick, an American patriot; born in Hanover co., Va., May 29, 1736. He entered business and

married at 18. Having failed successfully in "store-keeping" and in farming, he became a lawyer in 1760, and three years later found his opportunity, when, having been employed to plead the cause of the people against an unpopular tax, his great eloquence seemed suddenly to develop itself. This defense placed him at once in the front rank of American orators, and his later speeches advanced him to their head. Throughout the Revolutionary War he was a zealous patriot. He was a delegate to the 1st Continental Congress, which met in Philadelphia in 1774, and delivered the first speech in that assembly—a speech that for fiery eloquence and lofty tone was worthy of so momentous a meeting. In 1776 he carried the vote of the Virginia convention for independence; and in the same year he became governor of the new State. He was afterward four times reelected. In 1791 he retired from public life, and returned to his practice; in 1795 he declined the secretaryship of State offered him by Washington. He died June 6, 1799.

Henry Documents, a series of papers bearing on early American history. Sir James H. Craig, the governor of British North America, in January, 1809, sent an adventurer John Henry by name, into the New England States to report the feeling of that section of the country on the question of secession from the Union, and possibly to increase the discontent already caused among these people of commercial interests by the Embargo Act and the Non-Intercourse system of the government. Failing of the reward he sought from the British ministry, Henry sold to President Madison for \$50,000 his correspondence with the English officials, and these papers became known as the Henry documents. Madison submitted the letters to Congress and claimed that they proved a design on the part of England to annex the New England States.

Henry, Fort, a defensive work on the Tennessee river, about 8 miles W. of Fort Donelson. It surrendered to General Grant and Commodore Foote, Feb. 6, 1862.

Hephestus, the god of fire and of smithing among the Greeks, is represented by Homer as lame, walking

with the aid of a stick, and panting as he goes. He and his apprentices, the Cyclopes, inhabited volcanoes as their smithies. He corresponds to the Vulcan of the Romans.

Heptarchy, the name sometimes applied to the seven kingdoms supposed to have been established by the Saxons in England. They were Wessex, Sussex, Kent, Essex, East Anglia, Mercia, and Northumbria.

Hepworth, George Hughes, an American clergyman; born in Boston, Feb. 4, 1833. He was a Unitarian and later a Presbyterian minister, finally occupying an editorial position on the staff of the New York "Herald." He died June 7, 1902.

Hera, an ancient Greek goddess, identified by the Romans with their Juno, the sister and wife of Zeus (Jupiter), and daughter of Kronos (Saturn) and Rhea. The poets represent Zeus as an unfaithful husband, and Hera as an obstinate and jealous wife, the result of which is frequent strife between them.

Heraclidæ, the descendants of Hercules, who, after his death, 1209 B. C., were expelled from the Peloponnesus, and took refuge in Attica. The return of the Heraclidæ, or the Dorian Migration, 1104 B. C., forms a celebrated epoch in ancient chronology, as marking the transition from the heroic or fabulous ages to the period of authentic history.

Herald, title of certain officers in England who have charge of the records of the nobility, award the insignia of the various orders to the persons upon whom royalty has conferred the dignities, and collect fees from those who are thus honored. **Heralds** are appointed in England by the earl marshal whose office is hereditary.

Heraldry, properly the knowledge of the whole multifarious duties devolving on a herald; in the more restricted sense it is the science of armorial bearings. In England it is still of some importance, but in America it is generally ridiculed, there being no law to bar people from having any design they please on their belongings, provided they do not pose as policemen or other public officers. **Americans interested in coats-of-arms**

should address the College of Herolds, London, England. The college is entitled to large fees for services.

Herat, a city of Afghanistan, and capital of the province of Herat; in a plain near the Heri-Rud River, 360 miles W. by N. of Kabul. Herat is the emporium of the commerce carried on between Kabul and Bokhara, Hindustan, and Persia, and is a grand central mart for the products of India, China, Tartary, Afghanistan, and Persia. This place has often been ravaged by various conquerors, disputing the empire of Asia. The position of Herat is one of the greatest possible importance, and has been well described as the "Gate of India"; for within the limits of the Heratee country all the great roads, leading to India converge. Population (estimated), 20,000.

Herbaceous Plants, perennial plants of which the stem perishes, while the roots remain permanent and send forth a new stem annually.

Herbarium, or **Hortus Siccus**, ("dry garden"), a collection of specimens of dried plants, intended for future study and examination.

Herbart, Johann Friedrich, a German philosopher; born at Oldenburg, May 4, 1776. A long pedagogic career was connected chiefly with Göttingen, where he died in 1841. His atomic philosophy has many adherents, especially in America, where there is an active Herbart Society.

Herbert, the name of a famous British family. Herbert Fitz-Herbert was chamberlain and treasurer to King Henry I. In the reign of Henry V. Sir William Herbert of Raglan Castle, County Monmouth, received the honor of knighthood. His eldest son, a staunch adherent of the House of York, was created Earl of Pembroke by Edward IV. in 1468. His son became Earl of Huntingdon. The title of Earl of Pembroke was restored to the Herberts in 1551. The new earl was one of the most influential noblemen of his age, and one who took an active part in public affairs, both as a statesman and a soldier. By his wife, who was a sister of Catharine Parr (the last queen of Henry VIII.), he had a son Henry, second earl, to whose countess, Mary ("Sidney's sis-

ter, Pembroke's mother"), Sir Philip Sidney dedicated his "Arcadia."

Herbert, Henry William (pen name, Frank Forester), an American author; born in London, England, April 7, 1807. He was graduated at Oxford, and came to the United States in 1830, rising to eminence as a writer and scholar of decided versatility. He died in New York city, May 17, 1858.

Herbert, Hilary Abner, an American lawyer; born in Laurensville, S. C., March 12, 1834. He was educated in the universities of Alabama and Virginia, studied law and was admitted to the bar. He entered the Confederate service as captain, was promoted to the colonelcy of the 8th Alabama volunteers and was disabled at the battle of the Wilderness, May 6, 1864. He continued the practice of law at Greenville, Ala., till 1872, when he removed to Montgomery. He was elected to Congress in 1877, and was reelected seven times. He was Secretary of the Navy in 1893-1897; then engaged in law practice in Washington. Died, 1919.

Herbert, Michael Henry, an English diplomatist; born in England, June 25, 1857; entered the diplomatic service in 1877; was secretary of the British Legation at Washington in 1892-1893; at The Hague in 1893-1894; and at Constantinople in 1894-1897; and in 1902 was appointed British ambassador to the U. S. Died in 1903.

Herbert, Victor, an American composer and conductor; born in Dublin, Ireland, Feb. 1, 1859; came to the United States as solo violinist of the Metropolitan Orchestra in 1886; subsequently connected with Thomas's, Seid's, and other orchestras as soloist and conductor; organized an orchestra of his own in 1904. He died May 26, 1924.

Herculaneum, an ancient city about 5 miles from Naples, completely buried with Pompeii by lava and ashes during an eruption of Vesuvius in the reign of Titus, A. D. 79. The site had been long sought in vain, when in 1713 three statues were found in digging a well at the village of Portici. In 1738 the well was dug deeper, and traces of buildings were found. The theater was then discovered, but though the excavations were continued

Hercules

for many years it is now the only building to be seen underground, as the successive excavations were immediately filled up with rubbish from a new digging. A number of public buildings and private dwellings were laid bare, and many objects of great value discovered, such as statues, busts, beautiful mosaics, wall paintings, and charred papyrus manuscripts. One of the houses discovered contained a quantity of provisions, consisting of fruits, corn, oil, pease, lentils, pies, and hams. Among the most interesting objects discovered here were the papyri, over 1,750 of which are now in the Naples Museum, but hardly a third have yet been unrolled, the process presenting great difficulties from the tendency of the MSS. to crumble.

Hercules, or Heracles, the beloved son of Zeus by Alcmene. Hercules was doomed to a life of trouble, and became the type among the Greeks not only of manly strength, but of manly endurance. Hercules undertook adventures on his own account, killing a sea monster that ravaged Troy, and destroying Troy when the maids promised him as reward for killing the monster were denied him. His love of horses also led him to kill Iphitus, though his guest. Finally, after death, he himself joined the banquet of the deathless gods, with Hebe as his wife; but his phantom, armed with bow and arrow and gold baldrick, with wild boars and lions wrought upon it, terrified the dead in Hades.

Among the labors of Hercules were the destruction of the Nemean lion, of the Lernaean hydra, fetching the oxen of the triple-bodied Geryones, and the golden apples of the Hesperides; and freeing Prometheus from the eagle which tortured him; also the destruction of the Erymanthian boar, and of the Stymphalian birds; the capture of the Cretan bull, of the stag of Ceryneia, and of the horses of Diomedes; the cleansing of the stables of Augeas; and obtaining the girdle of the queen of the Amazons.

Hercules, Pillars of, a fanciful name given by the ancients to the two rocks forming the entrance of the Mediterranean at the Strait of Gibraltar. Their erection was ascribed by the Greeks to Hercules, on the occa-

Hereford

sion of his journey to the kingdom of Geryon.

Hercynian Forest, the general designation of the entire wooded mountain ranges of Middle Germany, from the Rhine to the Carpathian Mountains.

Herder, Johann Gottfried von, a German author; born in 1744. From 1761. to 1769 he was an assistant teacher at the cathedral school of Riga, with which office that of a preacher was connected, and it was during this period that he published his "Fragments on German Literature." His greatest work is his "Ideas on the Philosophy of the History of Man." He died in 1803.

Heredia, Jose Maria de, a French poet; born in Cuba, Nov. 22, 1842. He printed occasional poems, sonnets, etc., for private circulation, and though a Spaniard born he gradually came to be reckoned one of the most gifted and accomplished of French poets. He died in Paris Oct. 3, 1905.

Heredity, the transmission from parent to offspring of physical and intellectual characters. This has been at all times believed in, but it is only in recent times that the conviction has, in the hands of Darwin, Spencer, Haeckel, and Wallace, been methodized so as to embody an important zoological doctrine. The modern view of evolution in biology rests upon the belief that acquired peculiarities, or differences which may arise between parent and offspring, can be transmitted with some probability of permanence, especially if the variation presented by the young is determined by external conditions, or if it is such as to make the path of existence easier, and adapt the possessor more thoroughly to the conditions under which it is placed.

Hereford, the county town of Herefordshire, England, 144 miles W. N. W. of London. Its noble cathedral was built between 1079 and 1535, and so exhibits every variety of style from Norman to Perpendicular. Measuring 342 feet by 146 across the transept, it has a central tower 165 feet high. Nell Gwynn and Garrick were natives. It has stood many sieges from Stephen's time down to the Great Rebellion. Pop. (1921) 23,324.

Herefords (from the county of Herefordshire, England, where they were first reared), a breed of cattle having a dark red body with a white face and breast, and sometimes a line of white along the back. They have a thicker skin than the shorthorn, and long curly soft hair; the head is like that of a Devon, but larger, the muzzle coarser, and the throat more fleshy. Herefords are good grazing and working animals. They are very hardy, and excellent for the butcher, but are not useful as dairy animals.

Heresy, in ecclesiology and in church and civil history, the sense is religious error, departure from what is held to be true doctrine.

Heretic, one who adopts, and probably propagates, religious views which the Church to which he has belonged deems erroneous, and imperiling the eternal salvation of anyone holding them. Commonly speaking it is a term applied by the Roman Catholic Church to Christians, who do not accede to Roman Catholic doctrines. When the Church gained an influence over the civil power, it induced the latter to superadd civil to the ecclesiastical penalties for heresy. Those who differed from the opinions of the imperial house received many kinds of ill-usage, but it was not until A. D. 382 that a law of Theodosius I., directed against the Manichæans, authorized capital punishment for heresy. This law led to the execution at Treves, in A. D. 385, of Priscillian, Bishop of Avila.

In mediæval times it was supposed that the proper method of dealing with a heretic was to burn him alive, and accordingly there was a writ "De hæretico comburendo" (About burning a heretic), regarding which Blackstone says that it "is thought by some to be as ancient as the common law itself." The conviction of heresy by the common law, was however, by the archbishop in a provincial synod, and the delinquent was handed over to the civil power. During that part of the Reformation struggle in England in which the government was Roman Catholic, a heretic specially meant a Protestant; but by an act of Henry VIII. departure from the tenets of the Church of Rome was declared not to be heresy; an act of Elizabeth in name

swept away the penal statutes against heretics, leaving them to be dealt with by ecclesiastical courts; but it was not till 1676 that an act of Charles II. actually removed the writ from the statute-book. The persecution of those who differ from the prevalent religion of the state continued in one form or another down to very recent times, even in the more civilized countries, and still survives in Russia and parts of South America.

Heriot, George, a Scotch philanthropist; born in Scotland in 1563. He left nearly the whole of his fortune to found a hospital in Edinburgh for the maintenance and education of poor fatherless boys, freemen's sons, of the town. The present magnificent structure known as Heriot's Hospital was built between 1628 and 1659. He died in London, England, in February, 1623.

Heritage, in the Old Testament, the taking of anything capable of being possessed; a possession. In the New Testament, those assigned by lot. The flock placed under one's pastoral charge.

Herkimer, Fort, a fort built near the site of the present town of Herkimer, N. Y., during the Old French or Seven Years' War, and known during the Revolution as Fort Dayton.

Herkimer, Nicholas, an American military officer; born about 1715 of German parents. At the age of 30 he was lieutenant of militia, and was in command at Fort Herkimer, N. Y., when the Indians attacked it in 1758. He later became colonel and Brigadier-General of the New York militia. He joined the patriots of the Revolutionary War, and, owing to his popularity and force, was a powerful element in determining the success of the Revolution in his own State. His most noteworthy feat was the relief of Fort Schuyler when invested by Colonel St. Leger after the battle of Ticconderoga. The British troops heard of Herkimer's approach and surprised him while on the march. The militia were outnumbered and at first driven back, but Herkimer, though severely wounded, rallied his men, and ultimately drove off the whole besieging force. Ten days later he died from his wounds. In 1777 Congress ordered a monument to his memory, but it

Herkomer

was not till 1882 that it was finally erected by joint appropriations from Congress, the New York Legislature, and private subscriptions. It is an obelisk 85 feet high, faced with bronze memorial tablets. Herkimer county was also named from General Herkimer. He died in Danube, N. Y., Aug. 16, 1777.

Herkomer, Sir Hubert, an English painter; born in Waal, Bavaria, May 26, 1849. At an early age he settled with his parents in the United States and subsequently in England. He joined the Institute of Painters in Water Colors in 1871. His oil picture, "After the Toil of Day," in the Academy exhibition of 1873, was followed by his "Last Muster," which gained him the "grand medal of honor" at the Paris Exhibition of 1878. He founded the Herkomer School of Art in 1883. Died March 31, 1914.

Hermannstadt, a town of Rumania, formerly capital of Transylvania, 370 miles S. E. of Pest. It consists of an upper and a lower town, the walls, towers and bastions formerly surrounding which have only recently been demolished. Hermannstadt was originally the seat of a German colony, founded in the reign of Gesa II. (1141-1161), and was at first called Villa Hermanni. It endured several sieges from the Turks (1438 and 1442), as well as one from the followers of John Zapolya (1526). It also suffered at the hands of Gabriel Bathori in 1610, and again from both combatants during the Russo-Hungarian War of 1849. Pop. 29,577.

Hermaphrodite, in zoölogy, an animal having combined in itself the characteristics of the two sexes. In botany, possessing both stamens and pistils within the same floral envelope; bisexual. This is the rule rather than the exception among plants.

Hermas, one of the so-called apostolic fathers, generally supposed to be the person mentioned by that name in Rom. xvi: 14, though others maintain that he lived much later.

Hermes (called by the Romans Mercurius, and identified with their own god of that name), the son of Zeus and Maia, the daughter of Atlas. According to the legend Arcadia was his birthplace. The ancients represent Hermes as the herald and mes-

Hermit Crab

senger of the gods. He conducts the souls of the departed to the lower world, whence he is called Psychopompos, and is therefore the herald of Pluto and the executor of his commands. His magic wand had the power to close the eyes of mortals, to cause dreams, and wake the slumbering. The qualities requisite for a herald he possessed in the highest perfection and bestowed them on others—grace, dignity, and insinuating manners.

Hermes Trismegistus, a supposed Egyptian priest and philosopher, the friend and counselor of Osiris, and the first lawgiver and founder of religious ceremonies in Egypt. He taught the Egyptians to cultivate the olive and measure land and the science of hieroglyphics.

Hermesianism, the method of religious inquiry taught by Georg Hermes. Hermes combined with Roman Catholicism a strong tendency toward philosophy. He was of opinion that reason must first be exercised in establishing a Divine revelation and the claims of the Church of Rome infallibly to interpret its teaching. Georg Hermes was born in Dreierwalde, Westphalia, Prussia, April 22, 1775, and died at Bonn, May 26, 1831. He was a distinguished theologian, and held for some time the chair of Catholic theology at Bonn.

Hermetic Sealing, the term used to denote a very old process in which a glass vessel, such as a tube or flask, has its neck so fused together that no part of the contained matter can escape, and nothing foreign can get in.

Hermit, a name given in the early ages, and still more in the later church, to a solitary ascetic, who, with a view to more complete freedom from the cares, temptations, and business of the world, took up his abode in a natural cavern or a rudely-formed hut in a desert, forest, mountain, or other solitary place.

Hermit Birds, the name given by Swainson to a genus having short wings and long broad tails. They often rise up perpendicularly in the air, make a swoop, and return to their former station. Habitat, Brazil.

Hermit Crab, called also the soldier crab. The name hermit crab is

given because each individual of the family seeks out an abandoned univalve shell of suitable size, which may be at once a house and a fortification. Into the hollow spire of this he inserts his tail, guarding the aperture by means of his claws, and by means of which he draws his hermitage along.

Hermit Nation, The. Korea, in allusion to the exclusive policy of its people that for so many years closed it to the influences of Western civilization. Japan formerly bore the same title.

Hermon, Mount (now Jebel-es-Sheikh), the culminating point, 9,150 feet high, of the Anti-Libanus range.

Hermopolis, Magna, an ancient town of Egypt, on the Nile, on the border of the Thebaid, and near the frontier line of Upper and Middle Egypt. It had a celebrated temple sacred to Thoth, the ibis-headed god of letters, of which the portico alone is all that now remains. The modern name of Hermopolis is Ashmun or Eshmoon.

Hernandia, a genus of large East Indian trees. They have alternate entire leaves and flowers arranged in axillary or terminal spikes or corymbs.

Herndon, William Henry, an American lawyer; born in Greensburg, Ky., Dec. 28, 1818. In 1843 he formed a law partnership with Abraham Lincoln, which continued formally till the latter's death. He wrote the well-known "Life of Abraham Lincoln" (1889). He died near Springfield, Ill., March 18, 1891.

Herne the Hunter, a figure in popular tradition, long supposed to range at midnight around an ancient oak in Windsor Forest, England. He is referred to in Shakespeare's "Merry Wives of Windsor," and Herne's Oak continued to be an object of interest till it was blown down Aug. 31, 1863.

Hernia, the protrusion of some portion of the intestinal canal, or, in a more general sense, of any organ or part of an organ, from its natural place. The term is commonly applied to rupture at or near the abdomen.

Hero, a priestess of Aphrodite, who loved and was beloved by a beautiful youth named Leander, whose home was at Abydos, on the opposite shore of the Hellespont. Hero's position as

a priestess, and the will of her parents, were obstacles to their union, but Leander every night swam across the Hellespont to visit his beloved, directing his course by a lamp that burned on the top of a tower on the seashore. But one tempestuous night the light was extinguished, and Leander was drowned. Hero, when she saw his dead body washed ashore at daybreak, threw herself down from the tower into the sea and perished.

Hero of Alexandria, a great mathematician and natural philosopher; a pupil of Ctesibius; flourished about 100 or 150 B. C. Among his works which have come down to us the most notable is on pneumatics.

Herod, called The Great, from his power and talents, King of the Jews; was a native of Ascalon, in Judea, where he was born 71, or according to others, about 61 B. C.; was the second son of Antipater the Idumean, who, being made procurator of Judea by Julius Cæsar, appointed him to the government of Galilee. He at first embraced the party of Brutus and Cassius, but after their death reconciled himself to Antony, by whose interest he was first named Tetrarch, and afterward King of Judea. After the battle of Actium he so successfully paid his court to the victor that Augustus confirmed him in his kingdom; and on all occasions his abilities as a politician and commander were conspicuous; but his passions were fierce and ungovernable. Though married to the celebrated Mariamne, a princess of the Asmonean family, her brother Aristobulus and grandfather Hyrcanus fell victims to his jealousy of the ancient pretensions of their race. His very love of Mariamne herself, mingled as it was with the most fearful jealousy, terminated in her execution; and his repentance and keen remorse at her death only exasperated him to further outrages against her surviving relations, her mother, Alexandra, and many more falling victims to his savage cruelty. His own sons by Mariamne, Alexander and Aristobulus, whose indignation at the treatment of their mother seems to have led them into some intrigues against his authority, were also sacrificed in his anger; and their deaths crowned the domestic barbarity of Herod. **He**

Herod Agrippa

rebuilt the temple at Jerusalem with great magnificence, and erected a state theater and amphitheater in that city, in which he celebrated games in honor of Augustus, to the great displeasure of the more zealous of the Jews. He also rebuilt Samaria, which he called Sebaste, and adorned it with very sumptuous edifices. He likewise for his security constructed many strong fortresses throughout Judea, the principal of which he termed Cæsarea, after the emperor. On his palace near the temple of Jerusalem he lavished the most costly materials, and his residence of Herodium, at some distance from the capital, by the beauty of its situation drew around it the population of a great city. The birth of Jesus Christ is said to have taken place in the last year of the reign of Herod, viz., 4 B. C., the true year of Christ's birth being four years earlier than that adopted as the Christian era. This year was also signalized by the massacre of the children of Bethlehem. Herod was the first who shook the foundation of the Jewish government, by dissolving the national council, and appointing the high priests, and removing them at pleasure, without regard to the laws of succession. His policy, ability, and influence with Augustus, however, gave a great temporary splendor to the Jewish nation.

Herod Agrippa I., son of Aristobulus by Berenice, daughter of Herod the Great. From his attachment to Caligula he was imprisoned by Tiberius, but on the accession of Caligula (A. D. 37) he received the government of part of Palestine, and latterly all the dominions of Herod the Great. To please the Jews, with whom his rule was very popular, he caused St. James to be put to death, and imprisoned St. Peter. He died in the circumstances related in Acts xii., in A. D. 44.

Herod Agrippa II., a Jewish prince; son of Herod Agrippa I.; born about A. D. 27. On his father's death, he being too young to govern, Judea was reduced to a Roman province. He subsequently received the kingdom of Chalcis, and obtained the superintendency of the temple at Jerusalem, where, with his sister, Berenice, he heard the defense of Paul before Festus. Being driven from Jerusalem by

Herodias

the revolt of the Jews he joined Cestius, and later on Vespasian, and during the siege of Jerusalem was very serviceable to Titus. After its reduction (A. D. 70) he and Berenice returned to Rome. He is supposed to have died there, A. D. 94.

Herod Antipas, son of Herod the Great by his fifth wife, Cleopatra, was appointed Tetrarch of Galilee on his death (4 B. C.). This was the Herod who put to death St. John the Baptist, in compliment to his wife Herodias in revenge for his reproaches of their incestuous union. Having visited Rome he was accused of having been concerned in the conspiracy of Sejanus, and was stripped of his dominion, and sent (A. D. 39) with his wife into exile at Lugdunum (Lyons), or, as some say, to Spain, where he died.

Herodian, a Greek historian who held several public offices at Rome, and lived till some time after the year A. D. 238. His history is written in Greek, and comprises the period from the death of Marcus Aurelius to the year above mentioned. It is in eight books, without chronological data, but written in a pure and dignified style, in a spirit of independence and impartiality.

Herodians, a short-lived party, who, for some reason or other, rallied round Herod the Tetrarch. As Herod had too little force of character to inspire enthusiasm, it was evidently his position which gained him followers. Now that Judea had a Roman governor, Herod of Galilee was the leading representative of Jewish nationality menaced by Rome. Similarly, the Pharisees were the defenders of the national faith against the influx of classic paganism. These united to entangle and destroy Jesus.

Herodias, a granddaughter of Herod the Great and Mariamne, daughter of Aristobulus and sister of Herod Agrippa I. She was first married to her uncle Herod Philip, but afterward abandoned him and connected herself with his brother Herod Antipas. It was by her artifice that Herod was persuaded to cause to be put to death John the Baptist, who had boldly denounced the incestuous connection which subsisted between her and Herod.

Herodotus, the oldest Greek historian whose works have come down to us; born in Halicarnassus, Caria, in the fourth year of the 73d Olympiad, 484 B. C. Many authors, such as Hellanicus of Lesbos, Charon of Lampsacus, and Dionysius of Miletus, had even in some measure anticipated Herodotus in the subject of his work; but the works of those logographers as they are termed, were rather collections of tales more or less fabulous, narratives of travels, etc., than histories in the true sense of the word.

Egypt, so celebrated for the wisdom of its institutions, seems to have been one of the most constant subjects of his attention. This country had long been rendered inaccessible to the rest of the world by the jealousy of its rulers and the prejudices of its inhabitants against foreigners. But a short time before Herodotus commenced his travels it had been opened to the Greeks; and though it was then almost entirely unknown, and every part of it has since been examined by crowds of travelers and described in almost every language, yet no author, ancient or modern, has given a more accurate and instructive account of it than Herodotus. He did not content himself with a knowledge of places; he investigated likewise the productions of the soil, the manners, customs, and religion of the people, the history of the last princes who reigned before the conquest of the country by the Persians, and many interesting particulars concerning the conquest itself. The second book of his history, which is devoted to the description of Egypt, is still our richest store of information concerning its ancient history and geography. From Egypt he proceeded to Libya, concerning which he collected a mass of information equally new to his contemporaries and valuable to us.

He asserts himself that he resided some time in Tyre. He visited the coasts of Palestine, and thence continued his route to Babylon, then opulent and flourishing. His visit to Assyria has been doubted; but if we consider the different passages of his description of Babylon we must be convinced that none but an eyewitness could have given so exact an account of that great city and of the manners of the inhabitants. Having arrived in Scythia, then little known to the

Greeks, he penetrated into its immense wilds by the routes which had recently been opened by the Grecian colonies on the Euxine, and thence passing through the Getæ into Thrace and Macedonia, he reached Greece by the way of Epirus. Herodotus expected to find at home that honor which was due his labors, and leisure to arrange the information which he had collected. But Lygdamis, who had usurped the supreme authority in Halicarnassus and put to death the noblest citizens, among others Panyasis, forced him to seek an asylum in the island of Samos.

Having formed a conspiracy with several exiles who entertained similar sentiments with himself, he returned to Halicarnassus and drove out the usurper, but without much advantage to his country. The nobles who had acted with him immediately formed an aristocracy more oppressive to Halicarnassus than the arbitrary government of the banished tyrant. Herodotus became odious to the people, who regarded him as the author of their aggravated sufferings, and to the nobles, whose proceedings he opposed, so that bidding an eternal farewell to his unhappy country, he withdrew to the recently founded colony of Thurii, in Italy, where he spent the remainder of his life. Here, at an advanced age, we are told by Pliny, he wrote his immortal work.

Heron, the common name of birds of the genus *Ardea*. The herons are very numerous, and almost universally spread over the globe. They are distinguished by having a long bill cleft beneath the eyes, a compressed body, long slender legs naked above the tarsal joint, three toes in front, the two outer united by a membrane, and by moderate wings. The tail is short, rounded, and composed of 10 or 12 feathers. The common heron is about three feet in length from the point of the bill to the end of the tail, builds its nest in high trees, many being sometimes on one tree. Its food consists of fish, frogs, mollusks, mice, moles, and similar small animals. It has an insatiable voracity, and digests its food with great rapidity. It haunts fresh water streams, marshes, ponds, and lakes, as also the sea-shore. It was formerly in high esteem for the

table, and, being remarkable for its directly ascending flight, was the special quarry pursued in falconry by the larger hawks. The great heron is an inhabitant of America, and is called also great blue heron; the great white heron or egret belongs to Europe; and the green heron, the flesh of which is much esteemed, is a native of North America.



HERON.

Herpetology, that branch of natural history which treats of reptiles.

Herrick, Mrs. Christine (Terhune), an American writer on domestic economy; born in Newark, N. J., in 1859. Her home is in New York.

Herrick, Robert, an American poet; born in Cambridge, Mass., in 1868; was graduated at Harvard in 1890; Assistant Professor of Rhetoric, University of Chicago, 1895-1901; of English there, after 1905.

Herrick, Mrs. Sophie McIlvaine (Bledsoe), an American editor and microscopist, daughter of Albert T. Bledsoe; born in Gambier, O., March 26, 1837. She became editor of the "Southern Review" in 1877, and afterward joined the editorial staff of "Scribner's Monthly."

Herrig, Hans, a German poet, dramatist, and editor; born in Brunswick, Dec. 10, 1845. He abandoned law for literature and journalism, joining the staff of the "Deutsches

Tageblatt" when it started. His plays were numerous and successful. His greatest success was with the "church play" arranged and written for the Luther Jubilee of 1883, and widely performed. He died in Weimar, May 4, 1892.

Herring. There are many species of the genus, known under the name of herring; but the *Clupea harengus* is that which frequents the coasts of the United States in such numbers, and which furnishes so important an article of food to so many inhabitants. Herrings are found in the Atlantic from rather high Northern latitudes. They are met with in vast shoals on the coast of the United States, as low as the Carolinas. In Chesapeake bay they often cover the shore in such quantities as to become a nuisance. We find them also in the seas adjoining Kamchatka; and probably they reach Japan. Herrings feed much on minute crustaceans, and sometimes on their own fry. They are full of roe in the end of June, and continue in perfection till the beginning of winter. It is in summer that the great majority seem to spawn, but in certain localities numbers of them spawn in winter. How prolific they are may be guessed from the fact that 70,000 eggs have been counted in one female. The young herrings approach the shores in summer, and may then be from half an inch to two inches long. At a larger size they are eaten as white-bait. The invention of pickling or salting herrings is ascribed to the Dutch in the 14th century.

Herron, George Davis, an American lecturer and author; born in Montezuma, Ind., Jan. 21, 1862; was educated at Ripon College, Wis., and in Europe; pastor of Congregational Churches in Lake City, Minn., and Burlington, Ia., Professor of Applied Christianity in Iowa College, 1893-1900; leader of "The Social Crusade," a religious and socialist movement. The subject of his lectures was the relation of Christianity to existing social conditions.

Herschel, Caroline Lucretia, an English astronomer; sister of Sir William; born in Hanover, March 16, 1750. She devoted special energy to the discovery of comets, and was so successful as to be entitled to claim

the priority of discovery of at least five. On her brother's death in 1822 she returned to her native country, where she died Jan. 9, 1848.

Herschel, John, an English physicist; youngest son of Sir John F. W. Herschel; born in Cape of Good Hope, Oct. 29, 1837. He was among the earliest to view colored flames through the prism and thus to lay foundation of our present vastly extended knowledge of the sun's constitution.

Herschel, Sir John Frederick William, an English physicist; only son of Sir William; born near Windsor March 7, 1792. He limited his first exertions to a reëxamination of the nebulae and clusters of stars discovered by his father. In this labor he associated himself with Sir James South, and in 1824 they reported the position and apparent distances of 380 double and triple stars, obtained by more than 10,000 measurements. This memoir attracted the notice of the French Academy, and they voted it their astronomical prize; and two years later the gold medal of the Royal Society was awarded to each of the young astronomers. The results of the reëxamination were given in 1833 to the Royal Society in the form of a catalogue of stars in order of their right ascension. The catalogue contained observations on 525 nebulae and clusters of stars not noticed by his father, and on a great number of double stars, between 3,000 and 4,000 in all. In 1831 he was created a knight of the royal Hanoverian Order.

By a computation, based on the star gauges in both hemispheres relative to the Milky Way, Sir John found that the stars visible in a reflecting telescope of 18 inches aperture amounted to 5,331,572; and, more than this, the number really visible in the telescope was vastly greater, for in some parts of the Milky Way the stars were found to be so crowded in space as to defy all attempts to count them. He died at his country residence in Kent on May 11, 1871, and was buried in Westminster Abbey.

Herschel, Sir William, an astronomer, son of a musician of Hanover; was born there on Nov. 15, 1738. He went to England in 1757. Late in 1779 he began a regular survey of the

heavens, star by star, with a 7-foot reflector, and after 18 months' labor discovered, March 13, 1781, a new primary planet, named by him the Georgium Sidus, but now known as Uranus.

At Slough, near Windsor, he commenced the erection of a telescope of the enormous dimensions of 40 feet, and completed it in 1787. Its diameter was 4½ feet, and it weighed 2,118 pounds. In 1783 he had discovered a volcanic mountain in the moon, and from further observations made with his large instrument in 1787 two others were distinguished. He discovered, as he believed, that the Georgium Sidus was surrounded with six satellites; but there are still doubts about their number. He also discovered two of the Satellites of Saturn, and the fact that his system of rings revolved, and he measured his rotation and that of Venus, announced to the world that there were binary stars in the heavens, etc. He continued his astronomical observations till within a few years of his death, which took place in Slough on Aug. 25, 1822.

Herschell, Lord Farrer, the first baron of that name; born in London, England, Nov. 2, 1837. He was a privy councillor; a Knight of the Grand Cross of the Bath; doctor of civil law; doctor of laws; chancellor of London University; and was appointed British member of the Venezuela and British Guiana boundary arbitration tribunal in 1897. He was appointed one of the high joint commissioners from Great Britain, on the Anglo-American Commission, designed to settle existing differences between the United States and Canada, of which he became president. During the sitting of the commission in Washington, D. C., in February, 1899, he had a severe fall, from the effects of which he died in that city, March 1.

Hertha, the goddess of Earth, worshiped by the ancient Germans. According to Tacitus, she was adored chiefly among the Suevi, her sanctuary being in a grove on an island in the sea. Sometimes she issues from her island, takes her seat in her chariot drawn by cows, and goes out through the world, with the effect of making peace everywhere prevail. In astronomy, an asteroid, the 135th found. It

was discovered by Peters, Feb. 18, 1874.

Heruli, a Teutonic tribe, from the coast of the Baltic, which descended the Danube to the Black Sea, sailed through the Hellespont in 262, with other Gothic tribes, and assailed the cities of Greece, burning, among others, the famous temple of the goddess Diana at Ephesus. They were met near Athens by Dexippus, who routed them in 267. They again wandered N., invaded Italy, and overthrew the W. empire in 476. The Longobardi almost destroyed them in 512, and their name is mentioned for the last time in history at the defeat and death of Teias by Narses, in 553.

Herve, a small village in Belgium, a mile and a half from Battice, another small village; the former 15 miles E. of Liege. Both villages suffered severely from the German invasion in 1914 and subsequent occupation.

Herwarth von Bittenfeld, Karl Eberhard, a Prussian general; born in 1796. In 1864, raised to the rank of general, he acquired great fame through his daring capture of the isle of Alsen. He died in Bonn, Sept. 2, 1884.

Heshbon, a celebrated city of the Amorites, 20 miles E. of the mouth of the Jordan (Josh. iii: 10; xiii: 17). Its ruins are now called Hesban, and cover the sides of a hill 7 miles N. of Medeba.

Hesiod, one of the earliest Greek poets; born in Ascra, Boeotia, and usually supposed to have lived in the 8th century B. C. His "Theogony," being an attempt to present a systematic view of the origin and powers of the gods, and of the order of nature, is of great importance for the history of the religion of the Greeks.

Hesperides, in Greek mythology, the name of the famous sisters, who, assisted by the dragon Ladon, guarded the golden apples which Hera had received, on her marriage with Zeus, from Ge. Their genealogy, as well as their number are variously given by mythologists. They were, however, commonly set down at four, whose names were Ægle, Erythia, Hestia, and Arethusa. The locality of the gardens was also a matter of controversy, the two favorite opinions placing

them W. of Mount Atlas, and N. of the Caucasus. With the assistance of Atlas the apples were stolen by Hercules, who killed the dragon.

Hesperornis, a remarkable extinct form of bird, the remains of which have been met with in the American cretaceous deposits. As described by Professor Marsh, it possessed small pointed reptilian teeth, which were implanted in a deep continuous groove, somewhat like those of the ichthyosaurus. Its brain was small and more reptilian in type than that of any adult bird as yet examined. It appears to have been a large diving bird, measuring over five feet from the point of the bill to the end of the toes. Its wings were rudimentary, its legs powerful, and its feet well adapted for rapid progression in water. The tail was broad, could move up and down, and was probably used as a rudder or swimming paddle. The long slender jaws were united in front only by cartilage, as in serpents, and had on each side a joint which admitted of some motion, so that the power of swallowing was doubtless equal to almost any emergency.

Hesperus, the Greek name for Venus as the evening star. Hence the Alexandrian grammarians called Italy, and sometimes all Western Europe, Hesperia "The Western land."

Hess, Heinrich von, a German painter; born in Dusseldorf in 1798. He was of a family illustrious in art, and his works form one of the principal attractions of Munich. He obtained great reputation as a portrait-painter. He died in Munich, in 1863.

Hesse, or **Hessen**, anciently a territory of Germany, mainly between the Neckar, Rhine, Main, Lahn, and Fulda rivers. After various fortunes it was ruled by the landgrave Philip I., who succeeded in 1509, and at his death in 1567 divided his dominions among his four sons. The death of two of these, however, reunited the territories in part, so that there remained only the two main divisions of Hesse-Cassel and Hesse-Darmstadt, the latter now known simply as Hesse.

Hesse, or **Hessen**, **Grand Duchy of**, formerly known as Hesse-Darmstadt, an independent state of South Germany, consisting of sundry distinct

portions: area, 2,968 square miles; pop. (1925) 1,347,295. Of the two main portions, one (forming the provinces of Rheinhessen on the left, and Starkenburg on the right bank of the Rhine) lies immediately to the N. of Baden, the other, Oberhessen (Upper Hesse), is entirely enclosed by the Prussian Province of Hessen-Nassau. Principal towns, Darmstadt, the capital; Mainz, Giessen, Bingen, and Worms. "Duchy" now "People's State."

Hesse-Cassel, was till 1866 a German electorate, now forms the government district of Cassel in the Prussian province of Hesse-Nassau; area, 3,700 square miles. The landgraviate of Hesse-Cassel was formed by William IV., eldest son of Philip the Magnanimous. Constituted an electorate in 1803, it was occupied by the French in 1806, incorporated with Westphalia in 1807, and reconstituted an electorate in 1813. The elector having joined Austria in 1866, Hesse-Cassel was incorporated with Prussia, as part of the province of Hesse-Nassau.

Hesse-Homburg, a former landgraviate of Germany; consisted of the provinces of Homburg and Meisenheim; the former of which was bounded by Hesse-Darmstadt, Hesse-Cassel, and Nassau, and the latter by Rhenish Prussia and the Bavarian palatinate; area, 106 square miles. The male line of Hesse-Homburg became extinct by the death of the landgrave Ferdinand Heinrich Friedrich, March 24, 1866; the State was incorporated with Hesse-Darmstadt, and now forms part of Prussian Hesse-Nassau.

Hesse-Nassau, a province of Prussia, incorporated by decree of Dec. 7, 1868, by the union of the province of Upper Hesse (formerly a portion of the grand-duchy of Hesse) with the former duchy of Nassau; area, 6,060 square miles; pop. (1925) 2,388,799.

Hessian Fly, a fly the larva of which is very destructive to wheat, barley, and rye crops (it does not attack oats). It is so named from the belief that it was brought over to America by the Hessian mercenaries during the Revolutionary War. The female fly is about $\frac{1}{8}$ inch in length, with a wing expanse of about $\frac{1}{4}$ inch. Its body is brown, with the upper parts, the thorax, and the head of a darker shade, approaching to black. The

wings are of a dusky gray, and are surrounded with fringes. The male is somewhat smaller than the female and has longer antennæ. The female flies usually lay their eggs on the young plants twice in the year, in May and September, out of which eggs the maggots hatch in from 4 to 14 days. These work themselves in between the leaf-sheath and the stem, and fix themselves near the lowest joints, often near the root, and suck the juices of the stem, so that the ear falls down at a sharp angle. These maggots turn to pupæ, from which the flies develop in about 10 days. It has long been a pest in the United States and Germany.

Hessians, the inhabitants of Hesse, in Germany. This term was applied to the 20,000 German troops hired by England from the Duke of Brunswick, the landgrave of Hesse-Cassel, and other petty German princes at the beginning of the American Revolution.

Hettner, Hermann Theodor, a German historian; born in Leisersdorf, March 12, 1821. His masterpiece, published in 1856, "History of Eighteenth Century Literature," gave him high rank as a philosophical historian. Died in Dresden, May 29, 1882.

Hewitt, Nathaniel Augustus, an American Roman Catholic priest and religious writer; born in Fairfield, Conn., in 1820. He had a varied experience, at first as law student, then in turn as Congregational minister, Protestant Episcopal deacon, and Roman Catholic priest; joining under the religious name of "Augustine Francis," the Paulist order founded by Father Hecker, and becoming professor and superior in the Paulist Seminary, New York. He died in New York city, July 3, 1897.

Hewitt, Abram Stevens, born in Haverstraw, N. Y., July 31, 1822. He was graduated at Columbia College; was commissioner to the French Exposition of 1867; member of Congress 1875-1879, and 1881-1886; mayor of New York 1887-1888; secretary of the Cooper Union for the Advancement of Science and Art, New York. He was son-in-law of Peter Cooper, and was a high authority on all questions relating to iron. He died in 1903.

Hewitt, John Hill, an American ballad and miscellaneous writer; born

in New York city, July 11, 1801. His chief work is "The Minstrel's Return from the War." Died in 1870.

Hewitt, Peter Cooper, an American electrician; born in New York city, in 1862; son of Abram Stevens H. and grandson of Peter Cooper; was educated at Columbia University and Stevens Institute; his many inventions include the mercury vapor lamp and the "gliding boat." D. 1921.

Heydeck, Karl Wilhelm von, (sometimes called Heidegger), a Bavarian landscape painter; born in Saarlautern, Lorraine, in 1788. He entered the military academy at Munich in 1801, and rose to the rank of lieutenant-general. He served as a volunteer in the Peninsular campaign, and took an active part in the Greek war of independence. His pictures are numerous, the more important being preserved at Berlin and Munich. He died in Munich, in 1861.

Heyden, Friedrich August von, a German poet; born in Nerfken, East Prussia, Sept. 3, 1789. He gave up law and entered the army. Of distinguished family, he was employed in official posts at court in 1843, but fell into disfavor through reluctance to act as a literary censor. His verse is graceful and pleasing. He died in Breslau, Nov. 5, 1851.

Heyse, Paul, a German poet and novelist; born in Berlin, where his father was extraordinary Professor of Philology, March 15, 1830. In 1852 he traveled in Switzerland and Italy, and two years later settled in Munich on the invitation of King Maximilian II. of Bavaria, who granted him a pension. He lived mainly in Munich afterward, devoted almost exclusively to literature. Heyse's genius has found its most perfect expression in his numerous tales or novelettes ("Novellen"), and in this department of literature he holds almost a unique place among German writers. His work throughout shows a rich imagination and great fertility in invention. He died April 2, 1914.

Heywood, Thomas, an English dramatist; born in Lincolnshire, about 1575. He lived in the reigns of Elizabeth, James I., and Charles I., and was educated at Cambridge. He composed wholly or in part 220 different

plays. Of these only about 24 remain. He died about 1650.

Hezekiah (Hizkiyah, generally Hizkiyahu, strength of Jehovah), the 12th, and one of the best of the Kings of Judah. He succeeded Ahaz about 726 B. C., when he was 25 years of age, and died about 698 B. C. He had no sooner mounted the throne than he initiated a system of reform, on the injunctions of Isaiah, and broke up the idolatrous customs into which the people had fallen during the life of his father. With patriotic zeal he assumed the aggressive against the Philistines, and not only rewon the cities lost by his father, but dispossessed them of most of their own.

At this time the King of Judah had a dangerous illness, which threatened serious complications, and the kingdom was in a difficult crisis, for the king had no heir, Manasseh not being born till long afterward. To the king's anguish and prayer Isaiah was ordered to administer comfort and the promise of a fresh lease of life. Among the ambassadors who came with letters and gifts to congratulate him on his recovery was the viceroy of Babylon, to whom he unfortunately, though from perfectly justifiable motives, displayed the royal treasures. For this he received a terrible rebuke, and he was told by Isaiah that from Babylon would come the ruin and captivity of Judah.

Sennacherib besieged Jerusalem with mounds, and Hezekiah, to rid the country of its enemies, promised 800 talents of silver and 30 of gold. On this Sennacherib marched into Egypt, but his expedition proving futile he made a second invasion of Judah and attacked the stronghold of Lachish. From Lachish he sent an army against Jerusalem and the ministers of Hezekiah were filled with anguish and dismay. The piety of the king was of more avail than arms, and the result of prayer was a prophecy of immediate deliverance. "That night the angel of the Lord went out and smote in the camp of the Assyrians 185,000 men." Among the many conjectures as to the agent of this destruction, the most probable is that it was the pestilence. Hezekiah did not long survive this deliverance, and after a reign of nearly 29 years he

died at the age of 54, and was buried with much pomp amid universal mourning. He was one of the best Kings of Judah. Among the many highly useful works executed by him, the aqueducts of Jerusalem take a foremost place. During his reign was the golden age of prophetic poetry, for in addition to Isaiah there flourished then Nahum and Micah.

Hiawatha, an Indian legendary hero and peacemaker, known by this name among the Iroquois and by other titles among the other tribes of North America. He is mentioned in various works on the aborigines, and in 1855 was immortalized in the beautiful poem, "Hiawatha," by Longfellow. In this he is made to appear as an Ojibway chief.

Hibernation, in zoölogy, that peculiar condition of sleep in which certain animals, chiefly cheiroptera and rodentia, pass the winter season. The bats, the hedgehog and the dormouse are the most striking examples of this phenomenon.

Hibernators, when they retire for the winter, are unusually fat; when they emerge from their hibernaculum they are unwontedly lean. They all try to keep warm, the heat of their body being nearly that of their hibernaculum. Yet if exposed to greater cold they revive, and, if the temperature is still further lowered, like other animals they freeze to death. During dormancy the animal functions are all but suspended. Respiration and circulation are reduced to a minimum.

All reptiles and batrachia become torpid during cold weather, snakes passing the winter in tangled knots as if for warmth; if the viper is aroused at this season its venom is said to be inert. Alligators creep into holes in the riverbanks, and frogs lie dormant in the mud at the bottom of ponds. Many fishes (carp, roach, chub, minnows, eels, etc.), also retire into some deep recess, or into the mud, though their condition at this period is not that of the true hibernators. Their vitality only is lowered. The torpidity of insects in the pupa and other stages is well known. Individuals belonging to the Vanessa group of butterflies which hibernate in the imago stage occasionally emerge during mild winter days. But hive-bees do not hibernate,

food being necessary for their subsistence during the flowerless season.

Hibernia, the ancient name of Ireland, applied to it first by Julius Cæsar.

Hiccough, or **Hiccup**, a series of sudden, rapid, and brief inspirations, followed by expiration accompanied by noise. It is generally caused by irritation of the stomach, but is produced chiefly by the respiratory muscles. In children it sometimes follows a violent fit of crying or sobbing. It also accompanies certain fevers. There is an hysterical hiccough and a hiccough of death.

Hichens, **Robert Smythe**, an English journalist and novelist; born in Speldhurst, Kent, England, Nov. 14, 1864. In 1893 he visited Egypt for his health, and while there conceived the idea which materialized in the "Imaginative Man" (1895). "The Green Carnation" (1894), however, epigrammatic and keenly satirical in tone, first brought him into public notice, and was followed by other works of fiction.

Hickory, in botany and commerce, the several species of timber trees. One is the shell-bark, scaly-bark, or shag-bark hickory, from the tendency of the bark to peel off in long, loose strips. Its wood is noted for its elasticity and toughness. It is a large tree, sometimes 80 or 90 feet high, by 2 feet in diameter, growing in this country from South Carolina to New Hampshire. The nuts, which are whitish, are sub-globular, pointed at each end. Other species of the genus are the mocker-nut, white-heart, or common hickory, the wood of which is excellent for mechanical purposes, or for burning, the bitter-nut or swamp hickory, the pig-nut hickory, or hog-nut or broom hickory, the nutmeg hickory, etc.

Hicks, **Elias**, an American clergyman; born in Hempstead, N. Y., March 19, 1748; began his ministry among the Quakers in 1775 and devoted himself untiringly to his work for over 50 years without any compensation. He was an active abolitionist and in company with others was instrumental in inducing the State of New York to pass an act which, on July 4, 1827, liberated all

slaves within its borders. His doctrinal views, which were not acceptable to many Quakers, led to a disruption of the society, and a body adhering to his teachings was organized under the name of "Hicksites." Died in Jericho, N. Y., Feb. 27, 1830.

Hidalgo, a Spanish nobleman of the lower class. There were hidalgos de naturaleza, of noble birth, and hidalgos de privilegio, i. e., those on whom the king had conferred nobility, and those who purchased nobility. The title is now obsolete.

Hides, the skins of animals, either raw or dressed; but the name is more commonly given to the undressed skins of the larger domestic animals, as oxen, horses, etc., the smaller being called skins. The hide trade is now an important one.

Hierarchy, sacred government, sometimes used to denote the internal government of a Church, sometimes the dominion of the Church over the State. In the former sense hierarchy arose with the establishment of the Christian Church as an independent society. Though elders, called presbyters, stood at the head of the earliest congregations of Christians, their constitution was democratic, each of the members having a part in all the concerns the association. The government of the congregations was gradually transferred into the hands of their officers, as was natural when the congregations had become societies of great extent. In the 2d century the bishops acquired a superiority over the presbyters, and became the supreme officers of the congregations, although the presbyters retained some share in the government. The bishops in the capitals of the provinces, who were called metropolitans, soon acquired a superiority over the provincial bishops and exercised a supervision over them. They were themselves subject to the bishops of the principal cities of the Roman empire, Constantinople, Antioch, Alexandria, and Jerusalem, who received the title of patriarchs; and thus a complete aristocratic constitution was formed, which continued in the Greek church, while, in the Latin, the aristocracy was transformed into a monarchy. The Roman bishop acquired the primacy over the others, and the

opinion having become prevalent that the apostle Peter had founded the Roman Church and that its bishop was his successor, his authority constantly increased, and he gradually became a monarchical head of Western Christendom. This attribute of the papacy is no longer acknowledged even in countries most strongly Roman Catholic, and for many years past has not even been asserted by the popes, who have confined their claims to temporal power to the part of Italy formerly known as "States of the Church."

The term hierarchy is still in common use to denote the governing and ministering body in the Church according to its several gradations. Strictly it can be applied only to those churches which are ruled by bishops, such as the Roman Catholic Church and the Anglican Church, which also holds the theory of a hierarchical gradation of rank and authority. Both the Churches named comprise the three orders of bishops, priests, and deacons. Those Lutheran communities which still retain the title of bishops, concede so little of independent jurisdiction to the office, that the gradations in the ministry can scarcely be regarded as having a strict hierarchal character.

Hierarchy is also used to denote a division of the angels, prevalent in the Middle Ages.

Hiero I., King of Syracuse in Sicily, brother and successor of Gelon. On his accession to the throne of Syracuse, Gelon conferred on Hiero the government of Gela, his native place, and on his death left him 478 B. C., a scepter which he had rendered legitimate by his virtues. Hiero's reign was marked by a peculiar splendor on account of his generous encouragement of learning. His court became the rendezvous of the most distinguished men of his time. According to Ælian and Pindar, few princes were to be compared with him. He was several times victor in the Grecian games. Pindar has celebrated his victories; several odes of this poet are filled with his praises. Hiero died in Catana, 467 B. C.

Hiero II., King of Syracuse; born about 307 B. C. He was a son of Hierocles, a noble Syracusan, who claimed a descent from the family of Gelon.

Hierocles

He was chosen by the soldiers as general in 275 B. C., and recognized as king about 270. In 264 he made an alliance with the Carthaginians against Rome, and thus began the first Punic war. Being defeated by the Romans he made peace by the payment of tribute, and was ever after a faithful and useful ally to them. His subjects enjoyed great prosperity during his reign. He died 215 B. C.

Hierocles. A persecutor of the Christians, who was president of Bithynia, and afterward governor of Alexandria, where he committed numberless cruelties. He wrote some books against the Christians, mentioned by Lactantius and Eusebius. The remains of his writings were published by Bishop Pearson in 1654, with a curious discourse on them. Lived in the 4th century.

Hieroglyphic, in ordinary language, written in characters difficult to decipher. Hieroglyphics or hieroglyphs are representations of animals, plants, and other more or less material bodies, sculptured on Egyptian temples, obelisks, sarcophagi, etc., and designed for ideographic or other writings. They are not confined to Egypt; they exist in the adjacent lands, and in Mexico.

Hieronymites or Jeronymites, hermits of St. Jerome (Hieronimus), an order of religious persons established in 1374, who wear a white habit with a black scapulary. They possessed the convent of St. Lawrence in the Escorial, and still have convents in Sicily, the West Indies, and South America.

Higginson, Mary Thacher, pseudonym Mrs. Potter, an American author and poet, wife of T. W. Higginson; born in Machias, Me., Nov. 26, 1844.

Higginson, Thomas Wentworth, an American author; born in Cambridge, Mass., Dec. 22, 1823; was graduated at Harvard College in 1841; served in the Civil War as captain in the 51st Massachusetts Volunteer Militia, colonel of the 1st South Carolina Union Volunteers, and colonel of the 33d United States Colored Infantry. He died May 9, 1911.

Highbinders, the name given by Americans to a secret organization B.-39.

Highlands of Scotland

known to exist among the Chinamen in North America. The Chinese call these societies by a name meaning "hatchet" societies, and the members "hatchet boys." The members seem in reality to be lawless spirits who have organized for mutual protection in crime, for police purposes, and for blackmail, especially the last. Murder they consider a legitimate means of intimidation or revenge, and the coolie whose death has been decreed by a highbinder society has never been known to escape the hatchet boy or boys appointed for his doom. The term "Chinese Freemasons," applied to these people, has no foundation whatever in fact. They have not the remotest connection with Freemasonry.

High Church, one of the three great parties in the English Church. They regard the Episcopal form of government as so essential to a true church that, as a rule, they do not feel free to recognize, as sister churches, those Christian denominations which are under other forms of government. During the 19th century Highchurchism developed first into Tractarianism and then into Ritualism. In the United States the term is applied to Episcopalians who favor forms of worship resembling the Roman Catholic.

High German, originally the Teutonic dialect spoken in the S. and elevated parts of Germany, as distinguished from Platt Deutsch or Low German, spoken in the N. and more lowland portions of Germany.

Highland Regiments, regiments in the British army originally raised in the Highlands of Scotland. Each regiment has its own distinctive tartan, some retain the kilt, others wear trousers. Several highland volunteer regiments are brigaded with this corps. The regiments are largely recruited in England and Ireland.

Highlands of Scotland, The, a somewhat vague and indefinite geographical division of Scotland, N. and W. of a line running N. E. from Dumbarton on the Clyde through the counties of Dumbarton, Stirling, Perth, Forfar, Kincardine; then N. W. through Aberdeen, Banff, Moray, and Nairn, to the shores of the Moray

Firth. The mountainous parts of Banff, Moray, Aberdeen, and Kincardine are also recognized as forming part of the Highlands; while Caithness (partly) and the Orkney and Shetland Isles are excluded, because their inhabitants are of Scandinavian origin. The whole of the district, which embraces the Celtic-speaking part of Scotland, is wild, rugged, and mountainous, with much grand and picturesque scenery. Forming, by their natural characteristics, a region distinct from the Lowlands of Scotland, the Highlands were long in a state of political semi-independence, and socially and otherwise the people have still certain characteristics peculiar to themselves. What especially separated this region from the rest of Scotland was not only the Celtic language and blood, but also the clan system and all connected with it.

Highness, a title of honor given to princes or other persons of rank, used with the possessive pronouns "his," "her," etc., and with the addition of "royal," "imperial," "serene," applied to the members of royal, imperial, and some German sovereign families.

High-pressure, operated by a large measure of force of some sort. A high-pressure alarm in a steam engine is an alarm intended to give notice of a dangerous head of steam, and to prevent an explosion of a steam generator.

High Priest, the chief priest in any faith, he who occupies the highest place in the hierarchy, as the Pontifex Maximus among the Romans. In Judaism, the divinely-appointed head of the Jewish hierarchy. The first to hold the office was Aaron. The office was to descend lineally in his family. The high priests were to be without blemish, were to avoid eating things which died of themselves, or marrying a widow or a divorced person. They were not to make mourning for private or domestic sorrows.

High Seas, the open sea or ocean. The claims of various nations to exclusive rights and superiority over extensive tracts of the ocean highway have been settled after much controversy by a general international law. The principle now accepted is that the

jurisdiction of maritime states extends only for 3 miles, or within cannon range of their own coast; the remainder of the seas being high seas, accessible on equal terms to all nations. Inland seas and estuaries, of course, are excepted.

Hildreth, Charles Lotin, an American author; born in New York city, Aug. 28, 1856. He served on the staff of the New York "World" and later on "Belford's Magazine." He died in 1896.

Hildreth, Richard, an American historian; born in Deerfield, Mass., June 22, 1807. He first became known as a miscellaneous prose-writer and political journalist. The "History of the United States" is his greatest work, covering the period from the discovery of America to the end of President Monroe's first administration. He went to Italy in 1861 as United States consul, and died in Florence, July 11, 1865.

Hiles, Henry, an English organist, composer, and author; born in Shrewsbury, England, Dec. 31, 1826. He was the author of the standard theoretical works: "The Harmony of Sounds," and "The Grammar of Music." Died Oct., 1904.

Hill, Mrs. Agnes Leonard (Scanland), pseudonym Mollie Myrtle, an American novelist; born in Louisville, Ky., Jan. 20, 1842.

Hill, Ambrose Powell, an American military officer; born in Culpeper co., Va., Nov. 9, 1825; was graduated at the United States Military Academy in 1847; served in the Mexican War; resigned from the National army in March, 1861, and was made colonel of the 13th Virginia regiment; was promoted Major-General in May, 1862; greatly distinguished himself in numerous battles, in recognition of which he was promoted Lieutenant-General May 20, 1863, and placed in command of one of the three divisions into which the Confederate army was divided. He led his corps at Gettysburg and later at Bristow Station; and with Longstreet checked for a time the assault on the Weldon railroad in 1864. He was killed in front of Petersburg, Va., April 2, 1865.

Hill, Daniel Harvey, an American military officer; born in Hill's

Iron Works, York district, S. C., July 12, 1821; was graduated at the United States military academy in 1842; served in the Mexican War; became president of the North Carolina Military Institute in Charlotte in 1859; in the Civil War entered the Confederate army as colonel; rendered important service in September, 1862, and was promoted to Lieutenant-General in 1863; commanded a corps at the battle of Chickamauga; became president of the Arkansas Industrial University in 1877; died in Charlotte, N. C., Sept. 24, 1889.

Hill, David Bennett, an American lawyer and politician; born in Havana, N. Y., Aug. 29, 1843. He studied law, and was admitted to practice in 1864; elected to the State Assembly in 1870-1871; in 1882 was chosen lieutenant-governor of his State, succeeding Mr. Cleveland as governor when the latter assumed the presidency. In 1885 he was renominated for the governorship by the Democracy and elected. In 1888 he was again elected. In 1891 he was chosen United States Senator. He was a prominent candidate for the Democratic Presidential nomination in 1892. He died Oct. 20, 1910.

Hill, David Jayne, an American diplomat; born in Plainfield, N. J., June 10, 1850; president Bucknell University, 1879-1888, Rochester University, 1888-1896; assistant U. S. Secretary of State, 1898-1903; Minister to Switzerland, 1903-1905, to the Netherlands, 1905-1907; Ambassador to Germany, 1908-11. He was a member of the Permanent Administrative Council of The Hague Tribunal.

Hill, James Jerome, an American railway official and financier; born near Guelph, Upper Canada, Sept. 16, 1838. He was engaged in steamship and railroad transportation and in various financial affairs from early life, and did more for the up-building of Canada and the American Northwest than any other man. He died May 29, 1916.

Hill, Robert Thomas, an American geologist; born in Nashville, Tenn., Aug. 11, 1858; was graduated at Cornell University in 1886, and immediately after leaving college entered the service of the United States Geological Survey. He made explorations and

studied the problems of the geological history and origin of the land forms of Central America and the West Indies with Prof. Alexander Agassiz. He also was lecturer in the School of Economics of the University of Michigan; and was Professor of Geology in the University of Texas for two years. His most important work, published in 1898, was entitled "Cuba and Porto Rico, with Other Islands of the West Indies." In May, 1902, he was sent by the National Geographical Society at the head of the expedition to investigate the terrible volcanic eruption in Martinique.

Hill, Sir Rowland, the author of the penny-postage system; born in Kidderminster, England, Dec. 3, 1795. After agitating, for several years, his scheme regarding a reform of the old postal and franking systems, he, in 1842, succeeded in getting it carried into effect. He was also the originator of the money-order system, and of postoffice savings-banks. He died in Hampstead, near London, Aug. 27, 1879.

Hill, Theophilus Hunter, an American poet; born in Raleigh, N. C., Oct. 31, 1836. He was a lawyer in Raleigh, and State librarian, 1871-1872. He wrote "Hesper and Other Poems" (1861), the first book copyrighted by the Confederate government. He died in 1901.

Hill, Thomas, an American clergyman and educator; born in New Brunswick, N. J., Jan. 7, 1818. He was president of Harvard College, 1862-1868. He died in Waltham, Mass., Nov. 2, 1891.

Hillard, George Stillman, an American lawyer; born in Machias, Me., Sept. 22, 1808. As a Massachusetts legislator he was commended by Daniel Webster, and he was conspicuous as an orator. He died in Boston, Mass., Jan. 21, 1879.

Hillel the Elder, surnamed Hasken, a Jewish rabbi; born in Babylon. He lived in the century preceding the Christian era. At the age of 40 he removed to Jerusalem, where he studied the law with such diligence as to become master of the chief school of that city. He formed a new digest of the traditional law, from which the "Mishna," or earliest part

of the Talmud, is derived. He lived to the great age of 120 years.

Hillel the Younger, called Nasi, or prince of the captivity, presided over the Jewish Church in the 3d and 4th centuries, and distinguished himself by his great astronomical learning, reforming the Jewish calendar, regulating the period of the equinoxes, etc.

Hill Forts, the refuges and strongholds of the early inhabitants, existing in every country of Europe. Their range in time extends from the early prehistoric through the early historic periods of the racial areas in which they are found.

Hillhouse, James Abraham, an American poet; born in New Haven, Conn., Sept. 26, 1789. A merchant in New York, he retired from business in 1822. He died near New Haven, Jan. 4, 1841.

Hilliard, Henry Washington, an American lawyer, soldier and diplomat; born in Fayetteville, N. C., Aug. 4, 1808. He was graduated at South Carolina College in 1826, was admitted to the bar in 1829, and was a member of Congress from Alabama in 1845-1851. During the Civil War he was a Brigadier-General in the Confederate army. He was United States minister to Brazil in 1877-1881. He died in Atlanta, Ga., Dec. 17, 1892.

Hill of Tarik, the rock of Gibraltar, named after the Berber leader, Tarik, who conquered the fort in 711.

Hillsdale College, a coeducational institution in Hillsdale, Mich.; founded in 1855 under the auspices of the Free Baptist Church.

Hill Tribes, in ethnology, remnants of the early tribes found among the inhabitants of hills. The term hill tribes is now used chiefly of the Indian aborigines in the Himalayas, the Vindhya, the Western Ghauts, the Neilgherry Hills, etc.

Hilprecht, Herman Volrath, an American educator; born in Hohenecken, Germany, July 28, 1859; was graduated at the Ducal Gymnasium, Bernburg, Germany, in 1880; also studied at the University of Leipzig in 1880-1885; was Professor of Assyrian and Comparative Semitic Philology at the University of Penn-

sylvania in 1886-1910. He is a leading authority in cuneiform palæography, having made extensive explorations in Asia Minor, Syria, and Babylonia, and is the author of many contributions to Babylonian and Oriental chronology, archaeology, history, philology, and palæography.

Hilton Head, an island off the S. E. coast of Beaufort district, S. C.; at the mouth of Broad river. During the Civil War a strong fortification was erected here by the Confederates, called Fort Walker, armed with 20 guns, and garrisoned by a force of 620 men. This fort was attacked Nov. 5, 1861, by a Union fleet under Commodore Dupont, and captured, after a smart action, in which a Confederate flotilla, or "mosquito fleet," under Commodore Tatnall, took part. The National loss was reported at 8 killed and 23 wounded, that of the Confederates, 10 killed and 10 wounded.

Himalayas, The, or the Himalaya Mountains, an extensive mountain range of Asia, and the loftiest in the world, bounding Hindustan on the N. and separating it from the table-land of Tibet, which stands 10,000 feet above the sea. The direction of the range is S. E. from the Indus to the Gunduk, and thence E. to its termination. Its entire length is 1,900 miles; its average breadth is 90 miles, and the surface which it covers is estimated at 160,000 square miles. The average height of the Himalayas has been estimated at 15,700 feet. The principal peaks are: Mount Everest, 29,002 feet; Kunchinjinga, in Sikkim, 28,178 feet; W. peak of the same, 27,826 feet; Dhawalagiri, in Nepal, 26,862 feet; The passes over the main ridge amount to about 20, a few of which only are practicable for horses, sheep being principally used as beasts of burden over the steep acclivities. The limit of perpetual congelation in this chain is about 12,000 feet above sea-level. There are no direct traces of volcanoes so far discovered by explorers, but the numerous thermal springs, and many shocks of earthquake felt by travelers in many parts of the range, indicate it to be the focus of derangements of the earth's crust. The height at which plants

Himyarites

and trees flourish on the Himalayas varies on the N. and S. slopes nearly proportionally to the difference in the altitude of the snow-line. On the S. slope grain cultivation is not attempted higher than 10,000 feet; the highest habitation is at 9,000 feet; pines show their best growth at an elevation of 10,300 feet. The rhododendron grows up to 12,000 feet, and birches are found as high as 13,000 feet, above the sea. On the N. side, villages are found as high as 13,000 feet, grain is cultivated at 13,500 feet, birch trees rise to 14,000 feet; and vegetation is met with at 17,500 feet. Wheat, barley, and other grains are found on these heights. Strawberries and currants thrive on the S. slope, at an altitude of 11,600 feet.

Hind, John Russell, an English astronomer; born in Nottingham, England, May 12, 1823. He calculated the orbits and declination of more than 70 planets and comets, noted a number of new movable stars, and between 1847 and 1854 discovered 10 minor planets. He died in Twickenham, England, Dec. 22, 1895.

Hindenburg, Field Marshal Paul von, a German military officer; born in 1847; was graduated at the Military Academy in 1863; first saw active service in the Prussian-Austrian War; won the iron cross at the storming of Le Bourget in the Franco-Prussian War; became Chief of Staff of the Eighth Army Corps, commander of the Fourth Army Corps, and a general in the infantry; and was retired in 1911 because of ill health. At breaking out of World War his services, on account of age, were not accepted. He was finally given command in Aug., 1914, when the Russians threatened Germany's eastern frontier. He won the decisive battle of Tannenberg over the Russians in 1914. Was made a field marshal and soon became the idol and hero of the German army. Succeeded to command of all German forces in 1916. After the armistice he retained his chief command until June, 1919. In 1925 he was elected President of the German Republic.

Hindu Kush, or Indian Caucasus, a mountain system of Central Asia. It is generally considered as a continuation of the Himalayas, which it adjoins at the Indus, and then

stretches W. till it unites with the Ghur Mountains in North Afghanistan. In many features the Hindu Kush resembles the Himalayas proper, though it is lower and destitute of forests.

Hindustan, the name commonly given to the whole Indian empire, but which properly applies only to the Punjab and the valley of the Ganges.

Hindustani, a native of Hindustan proper. The word is also applied to a language which apparently arose from the efforts made by the Hindus and their Mohammedan conquerors to understand each other. It approaches Hindi, but has a large admixture of both Persian and Arabic words foreign to India. Hindustani will carry one all over India, but is really the vernacular of the Mohammedans, only, and not of the Hindus properly so called. It is sometimes called Urdu or Oordoo. When people speak of the Indian language they mean Hindustani, but the designation is erroneous. There are at least 12 leading Indian languages.

Hinny, a hybrid, the produce of a stallion and a she-ass. It is smaller and inferior in strength to the mule produced by an ass and a mare.

Hinton, Richard Josiah, an American author; born in London, England, Nov. 25, 1830; settled in the United States in 1851; studied topographical engineering at the Columbia School of Mines; removed to Kansas in 1856 and became a supporter of the cause of John Brown; served in the National army in 1861-1865; and was the first white man appointed to raise and lead colored troops. After the war he became engaged in newspaper work, which he pursued in Washington, New York, and San Francisco. He died Dec. 20, 1901.

Hiogo, a seaport of Japan, opened to foreign trade in 1860. It is now incorporated with Kobe on the island of Hondo, on the Bay of Osaka, 40 miles S. W. of Kioto, with which it has railway and other communications. The trade with the interior is important, and the exports of tea, copper, fish, silk, etc., large. Pop. 215,780.

Hip Joint, one of the most important articulations in the body, and

Hip Joint

Hip Joint

the most complete example of the ball-and-socket joint. The hip joint is made up of two bones—the acetabulum, or cup-like cavity in the os innominatum, or three bones forming one-half of the pelvis; and the head of the femur, or thigh-bone, the same provision being made here, by capsular, conical, transverse, and lateral ligaments, to secure the bone in its socket, and yet afford unlimited play to the limb; while, to guard it from blows and the force of accidents, the part is padded with a number of short, fleshy muscles, in addition to which a quantity of adipose tissue beneath the cuticle still further protects the part.

Hip Joint, Disease of the, a disease differing in many important points from other joint-diseases. Its connection with scrofula is more distinctly marked than that of most other joint diseases, and it almost always occurs before the age of puberty.

Hippias, tyrant of Athens. He was the son of Pisistratus, at whose death he assumed the government, in conjunction with his brother Hipparchus, on whose death he seized the reins of government, and revenged the death of his brother by putting to death all of whom he entertained the least suspicion. His tyranny at last became so obnoxious to the citizens that he was expelled from the city 510 B. C. He afterward induced Darius to apply to the Athenians in his favor; and their decisive refusal kindled the first war of the Persians against the European Greeks. According to some authorities the fate of Hippias was decided on the field of Marathon, where he fell on that memorable day, fighting against his countrymen, 490 B. C.

Hippocrates, the greatest physician of ancient times, usually designated the "Father of Medicine"; born in the Island of Cos, about 460 B. C. He was one of the family of the Asclepiades and the contemporary of Socrates and Plato; he began to be illustrious during the Peloponnesian war. He traveled extensively, and at length settled in Thessaly. Among his authentic writings are: "Prognosis," "Aphorisms," "On Epidemics," "On Diet in Acute Diseases," "On Air, Water, and Place," "On Wounds of the Head." He was distinguished for his remarkable skill in diagnosis, and

Hippopotamus

his accurate and vivid description of morbid symptoms. He died in Larissa, Thessaly, about 377 B. C.

Hippocrene, a celebrated fountain on Mount Helicon in Boeotia, sacred to the Muses. It was fabled to have burst from the ground when struck by the feet of Pegasus, and to possess the power of poetic inspiration.

Hippodrome, the Greek name for the public place where the horse and chariot races were held. The name is sometimes applied to a modern circus.

Hippogriff, or **Hippogryph**, in Greek mythology, a fabulous animal, represented as a winged horse, with the head of dragon or griffin.

Hippophagy, a name given by the Greeks to a Scythian people, living N. E. of the Caspian Sea, and to a Sarmatian tribe N. of the Euxine, who were said to be eaters of horseflesh. In some parts of modern Europe horseflesh is a regular and wholesome article of diet. In France a society of hippophagists was formed under the auspices of Geoffroy St. Hilaire; in 1866 the sale of horseflesh in the Paris market as an article of food was officially recognized and regulated; and during the siege of Paris horseflesh was gladly eaten by all who could get it. Poultry are in some places fed on the flesh of old horses. Owing to the high price of beef, mutton and pork great efforts are being made in Germany to promote the use of horseflesh as food. In the United States it is used in certain kinds of sausages.

Hippopotamus. The hippopotamus is fully equal to the rhinoceros in size, and is not less formidable. In figure the hippopotamus more closely resembles an unwieldy ox than any other animal. A male hippopotamus has been known to be 17 feet in length, seven in height, and 15 in circumference. The head is very large, being $3\frac{1}{2}$ feet in length; the mouth is amazingly wide, the ears small, pointed, and lined with fine short hairs; the eyes and nostrils are small; the lips very thick, broad, and beset with a few scattered tufts of short bristles; the body is thinly covered with very short whitish hair, more sparingly distributed on the un-

der parts; the tail is short, slightly compressed, and almost bare; the legs are short and thick; the feet large, the toes four, each furnished with a hoof, and all resting on the ground; the skin is very thick and of a dusky color. The hippopotamus is confined to Africa, and abounds most in the lakes and rivers of Abyssinia and the equatorial regions; but the animal is also found in considerable numbers in the Gambia, Niger, etc.

The great strength of the hippopotamus would render it one of the most formidable of quadrupeds were its disposition ferocious; but it is comparatively mild and gentle, except under great provocation or when wounded. When excited, however, its fury is remarkable; it often destroys boats with its teeth, or upsets them by raising them on its back. There is no doubt that it can be tamed. Live specimens are to be seen in the Zoölogical Gardens, New York, and elsewhere, and even in traveling menageries. In manners the hippopotamus resembles somewhat the hog. His sleeping place is usually muddy islands overgrown with reeds; in these places also the female brings forth. She goes with young nearly eight months, and produces but one at a birth. She is often seen in the rivers with her calf on her back. The hippopotamus is mainly a nocturnal animal, especially in regions where it is hunted with vigor. While it is resting in inactivity various insect-eating birds wander about on its back hunting out the numerous parasites which infest it. These birds are also said to act as sentinels in giving it warning of approaching danger.

The Liberian hippopotamus, found in Western Africa, is a much smaller and lighter animal, blackish above and whitish below. Its length is only about six feet. The remains of several extinct species have been discovered.

Hiproof, a roof, the ends of which slope so as to have the same inclination to the horizon as its other two sides, being thus of a triangular form.

Hiram, a King of Tyre, who sent to congratulate David on his accession to the throne, and aided him in building his palace (II Sam. v: 11; I Chr.

xiv: 1). He was the father of Abibaal of secular history. Also a king of Tyre, a grandson of the former (II Chr. ii: 14), and like him a friend of David. He congratulated Solomon at the commencement of his reign, and furnished essential aid in building the Temple.

Hirsch, Maurice, Baron de, a Hebrew philanthropist; born in Austria in 1831; died 1896. He increased a large inheritance by building railways in Rumania and Turkey, and during his lifetime gave over \$100,000,000 in charity, to which his wife at her death in 1899 added \$15,000,000. All of this money was devoted to the bettering of the social condition of the Jews by educational endowments and for Americanizing Russian and Rumanian Jews. In 1888 his offer of \$10,000,000 to the Russian Government for free schools was refused.

Hirson, a town on the Belgian frontier of France, 35 miles S. E. of Valenciennes. It is an important strategic position, as roads cross here from Valenciennes to the Meuse river and from Namur to Paris. The town manufactures glass bottles, tiles, iron and tin goods. Pop. about 9,000.

Histology, that branch of anatomy which examines and treats of the minute structure of the tissues of which living organisms are composed. It is divided into several sections. Human histology treats of the tissues of man; comparative histology treats of the tissues of the lower animals; and vegetable histology treats of the tissues of plants. By others histology is divided into three sections: general histology, which considers the tissues of which the human and animal body generally is composed; histology proper, in which the various tissues in their anatomical relations and composition are considered; and topographical histology, dealing with the more minute structure of the organs and systems of the body. Each of these subdivisions may be divided again into normal histology, which refers to the healthy tissues, and pathological histology, which investigates the changes they undergo in disease.

Hit (ancient Is), a town of Turkey in Asia, on the Euphrates, 85 miles W. N. W. of Bagdad. It has

pits of bitumen, which have been worked from time immemorial, and naphtha springs.

Hitchcock, Charles Henry, an American geologist; son of Prof. Edward Hitchcock; born in Amherst, Mass., Aug. 23, 1836; was graduated at Amherst College; was assistant geologist of Vermont (1857-1861); State Geologist of Maine (1861-1862); and of New Hampshire (1868-1872); Professor of Geology at Dartmouth College after 1869; vice-president of the American Association (1883). He has written much on geology. Died, 1890.

Hitchcock, Edward, an American geologist; born in Deerfield, Mass., May 24, 1793. In the beginning of his career he was pastor of a Congregational Church in Conway, Mass. He was made president of Amherst College in 1845, but resigned in 1854, continuing his professorship there till his death. Amherst College owes to him the founding of its Museum of Natural History, and his writings were among the earliest to call attention in the United States to the study of geology. His "Religion of Geology and Its Connected Sciences" marks a distinct epoch in scientific study in this country. He died in 1864.

Hitchcock, Ethan Allen, an American diplomatist; born in Mobile, Ala., Sept. 19, 1835; in 1897 he was minister to Russia; in 1898, ambassador; and in 1899-1907, Secretary of the Interior. He secured prosecutions for defrauding Indians. Died April 9, 1909.

Hitchcock, Frank Harris, an American executive; born in Amherst, O., Oct. 5, 1857; admitted to the bar in 1894; member of several government commissions; chairman of National Republican Committee. 1908-9; Postmaster-General, 1909-13; established the postal savings bank and parcel post and air mail systems.

Hitchcock, James Ripley Wellman, an American writer on art; born in Fitchburg, Mass., July 3, 1857.

Hitchcock, Roswell Dwight, an American theologian; born in East Machias, Me., Aug. 15, 1817. He was long president of Union Theological Seminary. He died in Somerset, Mass., June 16, 1887.

Hittell, Theodore Henry, an American historian; born in Marietta, Pa., April 5, 1830. His home was in San Francisco. Besides valuable legal works he published a critical review of "Goethe's Faust" (1872); the important "History of California," etc.

Hittites, the English name of a people who waged war with Egypt and Assyria for a thousand years, and who moved on parallel lines with the people of Israel from the call of Abraham to the Captivity. The Hittites have scarcely any record in classical history, but in late years we have much information respecting them from various sources.

Hivites, a Canaanitish people, the main body of whom lived in the region from Lebanon and Hermon to Hamath, but who had colonies, apparently isolated, in Southern Palestine, as at Gibeon.

Headley, George, an American jurist; born in New Haven, Conn., July 31, 1826; was graduated at Western Reserve College in 1844, and became a lawyer in 1847; was judge of the Supreme Court in Cincinnati, 1859-1866; member of the Ohio State Constitutional Convention of 1873-1874. Originally a Republican, he became a Democrat on the tariff issue; was governor of Ohio, 1883-1885; and began the practice of law in New York city in 1887. He died in Watkins, N. Y., Aug. 29, 1902.

Hoang, or **Hwang-ho**, a river of China, one of the most prominent features in the geography of that empire. Though broad and rapid, it is in many places so shallow as to be unfavorable for navigation. It is also liable to overflow its banks, so that it has been necessary, in many places, to raise dykes for the defense of the surrounding country. Its frequent overflows have caused vast destruction of life and property. Length, about 2,500 miles.

Hoar, Ebenezer Rockwood, an American jurist; born in Concord, Mass., Feb. 21, 1816; was judge of the Massachusetts Supreme Court in 1859-1869; United States attorney-general in 1869-1870; joint high commissioner on the Treaty of Washington in 1871, and member of Congress in 1873-1875. He was the son of

Samuel Hoar, a lawyer and member of Congress in 1835-1837, and his mother was a daughter of Roger Sherman. He died in Concord, Mass., Jan. 31, 1895.

Hoar, George Frisbie, an American statesman; born in Concord, Mass., Aug. 29, 1826; a brother of Ebenezer R.; was a member of Congress in 1869-1877; member of the Electoral Commission in 1877; and was elected United States Senator in the same year, and in 1883, 1889, 1895, and 1901. He died at Worcester, Mass., Sept. 30, 1904.

Hoarseness, an affection of the throat causing harshness and roughness of voice, due to irregular and imperfect bringing together of the vocal cords, most frequently from swelling of the mucous membrane of the cords, and excessive secretion of mucus in their neighborhood. It arises from a variety of causes, the most common of which is catarrh or cold.

Hoatzin, or Hoactzin, a singular gregarious South American bird, sometimes called the crested touraco. The plumage is brown streaked with white, and the head has a movable crest. It is of the size of a pheasant, and has an enormous crop with a very small gizzard.

Hobart, Garret Augustus, a Vice-President of the United States; born in Long Branch, N. J., June 3, 1844; was graduated at Rutgers College in 1863, and admitted to the bar in 1866; practised in Paterson, N. J.; was a member of the New Jersey Assembly in 1873-1874, and speaker during the latter year. Was counsel for and interested in prominent corporations. In November, 1896, was elected Vice-President of the United States. He died in Paterson, N. J., Nov. 2, 1899. He was said to be very wealthy.

Hobart Pasha, Augustus Charles Hobart, an English soldier; born in England in 1822. Entering the service of Turkey, he was raised by the Sultan to the rank of "Mushir" and Marshal of the Empire in 1881, being the first Christian to receive this honor. He died in 1886.

Hobbes, John Oliver, pseudonym of Pearl Mary Teresa Craigie, an American novelist and dramatist; born

in Boston, Mass., Nov. 3, 1867. In 1887 she married Reginald Walpole Craigie, from whom she obtained a divorce and the custody of her child, in July, 1895. Her plays and novels were popular. She died in London Aug. 13, 1906.

Hobbes, Thomas, an English philosopher; born in Malmesbury, in 1588. He lived on intimate terms with Bacon, Ben Jonson, and all the distinguished men of his time; he became tutor to the Prince of Wales, afterward Charles II., and though many of his philosophical and political opinions have been condemned, he must be considered the father of psychology, and the first great English writer on the science of government. He died in 1679.

Hoboken, a city of New Jersey, in Hudson Co., on the Hudson River, opposite New York city, of which it is a suburb. It is an important shipping and railroad terminus, with numerous industrial interests, and is the seat of the celebrated Stevens Institute of Technology. A Dutch settlement was made here in 1640, but the modern city dates chiefly from 1804, when it was founded by John Stevens. Its Elysian Fields was a favorite pleasure resort of New Yorkers early in the 19th century. Pop. (1930) 56,261.

Hobson, Richmond Pearson, an American naval officer; born in Greensboro, Ala., Aug. 17, 1870; was graduated at the United States Naval Academy in 1889, and received further training in the Ecole d'Application du Genie Maritime, Paris. In 1894-1895 he served in the Bureau of Construction and Repairs of the Navy Department. At the outbreak of the Spanish-American War he was promoted lieutenant, and assigned to duty on the flag-ship "New York," with which he participated in the blockade of Santiago Harbor, where he distinguished himself by the sinking of the collier "Merrimac" on June 3, 1898, in the narrow entrance of Santiago Harbor, with the intention of preventing the Spanish fleet from leaving the inner bay. Later he went to Manila, where he directed the raising and repairing of the Spanish ships sunk on May 1, 1898. He resigned from the Navy in 1903, and was a member of Congress in 1907-1911. He is the

author of "The Disappearing Gun Afloat," "The Sinking of the Merri-mac," etc.

Hobson's Choice, a choice without an alternative; that which is tendered, or nothing; the one thing or none. This phrase is said to have originated from one Hobson, a livery-stable keeper at Cambridge, England, who obliged each customer requiring the hire of a horse to take the next in turn, or that which stood nearest the stable-door.

Hoche, Lazare, a general in the French Revolutionary War; born in Montreuil near Versailles, June 25, 1768. He took service in the regiment of French guards when 16 years old. On the outbreak of the Revolution he joined the popular party. In 1796 he conceived the plan of attacking Great Britain by making a descent on Ireland. He accordingly set sail in December from Brest, but a storm dispersed the fleet; he found himself alone near the coast of the enemy, and he was obliged to return from his expedition without having even effected a landing. He died suddenly Sept. 18, 1797.

Hockey, a game of ball played with a club curved at the lower end, by a number of persons divided into two parties or sides; and the object of each side is to drive the ball into that part of the field marked off as their opponents' goal. In the United States it is played by school boys, who sometimes call the game "shinney."

Hodge, Charles, an American theologian; born in Philadelphia, Pa., Dec. 28, 1797. He was graduated at Princeton College in 1815, and joined the teaching staff of the theological seminary in 1820. He founded the "Princeton Review"; was the author of numerous theological essays, commentaries, and a work on "Systematic Theology." He died in 1878.

Hoe, Richard Marsh, an American inventor; born in New York city, Sept. 12, 1812. In 1846 he perfected a rotary printing-press which was called "Hoe's lightning press." Subsequently he invented the Hoe web-perfecting press. These were especially adapted to newspaper printing and made a revolution in that art. He died in Florence, Italy, June 7, 1886.

Hofer, Andreas, a Tyrolese patriot; born in St. Leonard, in the valley of Passeier, in 1767. When the Tyrol, long a part of the Austrian dominions, was given by the treaty of Pressburg to the King of Bavaria, then the ally of Napoleon, the Tyrolese revolted, and Andreas Hofer became their leader. Within a week from the outbreak of the insurrection, early in April, 1809, the Bavarian forces were everywhere defeated and the Tyrol freed. Three French armies then invaded the province, and after temporary success on their part, Hofer won the victory of Innsbruck, and again freed his country. By the armistice of Znaim, agreed to after the victory of Napoleon at Wagram, the Austrians were compelled to quit the Tyrol. A second French invasion ended in defeat, and the people were a third time freed. For a few weeks Hofer was, virtually, sovereign of his country; but on the renewed invasion of French and Bavarians, he was betrayed to his enemies, condemned by a court-martial at Mantua, and shot Feb. 20, 1810.

Hoffman, Charles Fenno, an American poet and novelist; born in New York city, in 1806. He was originally a lawyer. He founded the "Knickerbocker Magazine," edited the "Literary World," and was owner and editor of the "American Magazine." He died in Harrisburg, Pa., June 7, 1884.

Hoffman, David, an American lawyer; born in Baltimore, Md., Dec. 25, 1784. He was Professor of Law in the University of Maryland 1817-1836. He died in New York, Nov. 11, 1854.

Hoffmann, Ernst Theodor Amadeus, German novelist; born in 1776 at Königsberg, where he studied law, held several minor government appointments, and died in 1822. Among his chief works are "Phantasiestücke;" and "Die Elixire des Teufels."

Hoffmann, Friedrich, a German physician; born in Halle, Saxony, 1660. On the establishment of the University of Halle, he was appointed primary Professor of Medicine and Natural Philosophy; and thrice held the situation of rector. Later he was elected a member of various scientific associations in London, Berlin, and St.

Petersburg; and appointed physician to the King of Prussia who gave him the title of first physician and aulic councillor. His works are very numerous, the most important being his "System of Rational Medicine" and "Consultary Medicine." He died in 1742.

Hog, in zoölogy, *Sus scrofa*. It has two large teeth or tusks in the upper, and two in the lower jaw. The body is covered with bristles. When wild it is of a dark brindled hue, with soft short hairs beneath its bristles. In domestication the ears become long, sharp-pointed, and pendent. The hog when wild feeds on beech-mast, chestnuts, acorns, crabs, haws, sloes, hips, grass, and roots. When it can obtain miry ground to wallow in, it regales itself with frogs, ferns, and the roots of rushes. In domestication it will eat almost anything in the least digestible—an uncleanly but valuable scavenger. The flesh of the hog when fresh is called pork, when cured, ham or bacon. The ordinary lard is used for culinary purposes, the fat of the bowels for greasing axles. The bristles are made into brushes, pencils, etc.; the skin into leather. The hog is wild in many parts of the world. The horned hog, or babiroussa, is a native of the Indian archipelago. Its upper tusks are very long and curve backward. It has long legs and the flesh is good eating.

Hogarth, William, a satirical artist and engraver of life and manners; born in London, England, in 1697. Having been accidentally present at a drunken fray one Sunday at a public house on the road to Highgate, his humor in sketching characters was first displayed by his drawing one of the unfortunate combatants streaming with blood. Soon after he produced a print of Wanstead Assembly. In 1720 he commenced business for himself, painting portraits, and making designs and book plates for the booksellers, etc. He gradually acquired fame and a comfortable fortune, his "Rake's Progress," the "Harlot's Progress," "Marriage à la Mode," "Four Stages of Cruelty," and similar works attracting universal attention. In 1762 his health began to fail, and general decay set in. The last year of his life he spent chiefly in Chiswick in

retouching his plates, in which labor he was assisted by several other engravers. He died there on Oct. 25, 1764. In originality of imagination he may be placed on an equality with Shakespeare, and in point of execution as a painter he is superior to most artists of the age in which he lived.

Hoge, Moses Drury, an American clergyman; born in Hampden-Sidney, Va., Sept. 17, 1819; was graduated at Hampden-Sidney College in 1839, and at Hampden-Sidney Seminary in 1843; and was pastor of the Second Presbyterian Church in Richmond, Va., from 1845 till his death. He was an eloquent and energetic preacher; was chaplain at the camp of instruction in Richmond during the Civil War; ran the blockade at Charleston in 1864; and went to London, where he collected 10,000 Bibles, 50,000 Testaments, and 250,000 portions of the Bible, which he distributed among Confederate soldiers. During the General Assembly of the Southern Presbyterian Church in 1874, he succeeded in establishing friendly relations with the Northern Church. He died in Richmond, Va., Jan. 6, 1899.

Hogg, James, a Scotch poet; born in Selkirkshire in 1770. After receiving a very scanty education he began to earn his bread by daily labor as a shepherd. His early rhymings brought him under the notice of Sir Walter Scott, by whose advice he published a volume of ballads under the title of "The Mountain Bard." The appearance of the "Queen's Wake" in 1813, with its charming ballad of Kilmeny, established Hogg's reputation as a poet. He died in Altrive, on the Yarrow, in 1835.

Hohenlohe - Schillingsfurst, Clovis Karl Victor, Prince von, a German statesman; born March 31, 1819. In 1874 he was chosen to succeed Count Arnim as the German ambassador to France, and held the post till 1885, when he became Governor-General of Alsace-Lorraine. In 1894 he was appointed chancellor to continue Count Caprivi's policy. He resigned in 1900, and died July 6, 1901. His memoirs published in 1906 excited Emperor William II.'s wrath by their revelation of the Kaiser's relations with Prince Bismarck.

Hohenstaufen

Hohenstaufen, a famous German family, founded by Frederick von Buren, who lived about 1040.

Hohenzollern, a small territory of Germany, since 1852 an administrative division of Prussia. It consists of a long, narrow, irregular strip of country, entirely surrounded by Wurtemberg and Baden. Area, 441 square miles. Pop. (1925) 71,773. The princely family of Hohenzollern dates from Thassilo, Count of Zollern, who died about A. D. 800. There have been several lines and branches, the main one being represented by the late imperial family of Germany.

Holbein, Hans, or Johann, a German painter; born in Augsburg, about 1497. He learned the elements of his art from his father, whom he soon excelled. At the recommendation of Erasmus he came to England and was employed first by Sir Thomas More, who introduced him to Henry VIII. He rose to the zenith of fortune in that monarch's court, and painted a great number of portraits which are still considered masterpieces of art. He painted some religious and historical pieces; his masterpiece is perhaps the "Family of the Burgomaster Meyer," now in the Gallery of Dresden. Holbein is also the author of a very celebrated series of designs, known as the "Dance of Death," cut in wood and first published at Lyons in 1538; afterward copied by Hollar and others. He died of the plague in 1543.

Holberg, Ludwig, a Danish poet; born in 1684. His works may be divided into four classes—poems, stage pieces, philosophical treatises, and historical works. His poems are chiefly of a satirical nature. He died in Copenhagen, Jan. 27, 1754.

Holcombe, Chester, an American diplomatist and author; born in Winfield, N. Y., Oct. 16, 1844; was graduated at Union College in 1861; interpreter and secretary to the United States Legation in China, 1871-1885; was an authority on the Chinese and Chinese affairs, and in 1896 acted for the Chinese government in its financial embarrassments. D. in 1912.

Hold, the whole interior cavity or belly of a ship, or all that part of her inside which is comprehended between the floor and the lower deck throughout her length.

Holland

Holden, Edward Singleton, an American astronomer; born in St. Louis, Mo., Nov. 5, 1846; was graduated at Washington University in 1866, and at the United States Military Academy in 1870; Professor of Mathematics at the Naval Academy in 1873-81; president of the University of California in 1883-88; director of the Lick Observatory in 1888-98; then astronomer of the Smithsonian Institution. He died March 16, 1914.

Holden, Sir Isaac, an English inventor; born in Hurlet, England, May 7, 1807. While a worker in a cotton mill in Paisley, he fitted himself for the post of a teacher. He hit on the idea of putting sulphur under explosive material, which solved the problem of the lucifer match. Holden was not himself aware that lucifer matches had been made nearly two years before by John Walker, a chemist. While bookkeeper in a worsted mill, Holden became possessed with the ambition of inventing wool-combing machinery. After the expenditure of about \$250,000 in experiments, Holden's wool-combing machinery brought him both fame and fortune. He was afterward a member of Parliament. He was made a baronet in 1893, and died Aug. 13, 1897.

Holder, Charles Frederick, an American naturalist; born in Lynn, Mass., 1851. He was assistant at the American Museum of Natural History, New York, in 1870-77; died in 1915.

Holinshed, Raphael Ralph, an English chronicler; lived in the age of Queen Elizabeth. He is best known by his "Chronicles of Englande, Scotlande, and Irelande," the first edition of which, known as the "Shakespeare edition," because it is the one which is supposed to have been used by him in collecting material for his historical plays, was published in London in 1577. He died about 1580.

Holkar, a powerful Mahratta family, now in possession of the protected State of Indore in Hindustan. It was founded in the first half of the 18th century by a man of humble origin, a native of the town of Hol in the Decan, hence the name.

Holland, North and South, two maritime provinces of the Netherlands, whence the popular name of the country is derived.

Holland, Frederick May, an American clergyman and author; born in Boston, May 2, 1836. He graduated at Harvard in 1859, and in 1862-74 was a Unitarian minister. His works include "The Reign of the Stoics;" "Rise of Intellectual Liberty." D. 1908.

Holland, Henry Richard Vassall Fox, Lord, an English publicist; born in 1773. He succeeded to the peerage by the death of his father when less than one year old. In 1806 he was commissioner for settling disputes with the United States; lord privy seal in 1806-1807; and chancellor of the duchy of Lancaster. He made Holland House the resort of wit, talent, and beauty. He died in 1840.

Holland, Sir Henry, an English physician; born in Knutsford, Cheshire, Oct. 27, 1788. His "Medical Notes and Reflections," published in 1839, consist of 34 essays on various departments of medicine and psychology; it has passed through several editions. He died in London, Oct. 27, 1873.

Holland, Josiah Gilbert, an American author; born in Belchertown, Mass., July 24, 1819. He was graduated at the Berkshire Medical College, at Pittsfield, in 1844. He soon abandoned his profession, however, and after 15 months as a school superintendent at Richmond, Va., became assistant editor of the Springfield "Republican," of which he was part proprietor also from 1851 to 1866. He was one of the founders and editor of "Scribner's Monthly." He died Oct. 12, 1881.

Holland, Thomas Erskine, English jurist and author; b. Brighton, July 17, 1835, wrote "Elements of Jurisprudence" (1880).

Hollander, Jacob Harry, economist and author; b. Baltimore, July 23, 1871; graduated from Johns Hopkins Univ.; was Sec. of the Bimetallic Commission, 1897; Special Commissioner to Puerto Rico, 1900, where he devised the "Hollander law" for the revenue system; special commissioner to San Domingo, 1905.

Holleben, Theodore von, a German diplomatist; born in Stettin, Pomerania; was graduated at the universities of Heidelberg, Berlin, and Göttingen; entered the Body Guard

Hussar Regiment; took part in the Franco-Prussian War, and distinguished himself during the siege of Paris and in the battles of Bapaume and St. Quentin. He entered the diplomatic service in 1872; was charge d'affaires at Peking, China, in 1873-1874, and at Tokio, Japan, in 1875; minister at Buenos Ayres in 1876-1884; at Tokio in 1885-1889; and at Washington, D. C., in 1892-1893; and became ambassador to the United States in 1897. At the command of Emperor William he, together with Secretary Hay, of the State Department, had charge of the arrangements for the official reception of the emperor's brother, Admiral Prince Henry, in February, 1902. He was relieved as ambassador in 1903, and died in 1913.

Holley, Alexander Lyman, an American metallurgist; born in Lakeville, Conn., July 20, 1832; was graduated at Brown University in 1853; became editor of "The Railroad Advocate" in 1856, and soon changed its name to "The American Engineer." About 1863 he went to England and purchased for Corning, Winslow & Co. the Bessemer patents for the manufacture of steel. The first Bessemer works were built by him in Troy, N. Y., in 1865, and the second plant in Harrisburg, Pa., in 1867. He was Lecturer on the Manufacture of Iron and Steel at Columbia University in 1879-1882. Holley secured about 16 patents, of which the most important was probably that for the detached converter-shell, an improvement in the Bessemer process. He died in Brooklyn, N. Y., Jan. 29, 1882. A colossal bronze bust of him has been placed in Washington Square Park, New York city, as a testimonial from the mechanical engineers of the United States and Europe.

Holley, Marietta, an American author; born in Ellisburg, N. Y., in 1844. Died in March, 1926.

Hollister, Gideon Hiram, an American lawyer and author; born in Washington, Conn., Dec. 14, 1817. His home was in Litchfield, Conn. He was minister to Haiti in 1868-1869. He died in Litchfield, March 24, 1881.

Holloway, Mrs. Laura (Carter), an American author; born in Nashville, Tenn., Aug. 22, 1848. She was

for 12 years associate editor of the Brooklyn "Daily Eagle."

Holloway, Thomas, an English philanthropist; born in 1800. He founded a sanatorium or asylum for the insane, and hospitals for incurables and convalescents, at Egham, Surrey, in 1873; and also at the same place the Royal Holloway College, designed to supply the best and most suitable education for women of the middle classes. The college, which was opened by Queen Victoria in 1886, contains a collection of pictures of the value of \$500,000. The total cost of the two institutions was \$5,000,000. He died in 1883.

Hollow Ware, the trade term for all kinds of vessels made of cast or wrought iron, and used for cooking and other purposes.

Holly, a shrub or small tree, 10 to 40 feet high, with glossy leaves, the lower ones uniform, with waved spinous cartilaginous margins, the upper ones sometimes entire; flowers in umbellate cymes, white, often subdiæcious; fruit a scarlet or more rarely a yellow drupe, with four bony furrowed stones. The beautiful white wood of the holly is valued by cabinet-makers for inlaying, the bark is used in the manufacture of birdlime, the berries are a violent purgative. The leaves and berries form, with ivy, the principal material of Christmas decoration. The North American holly is found along the entire Atlantic coast of the United States.

Holly, Willis, journalist and public official; born Stamford, Conn., July 4, 1854; entered the New York "Sun" office as a boy, and grew to be Albany correspondent and political writer. Secretary to Mayors Grant and Gilroy of New York city, and secretary to the Park Commission, 1898 to 1901, and author of voluminous reports on the vast and magnificent system of New York public parks.

Holly, James Theodore, an American clergyman; born in Washington, D. C., Oct. 3, 1829. The son of Roman Catholic (colored) parents, he withdrew from the Catholic Church and entered the Protestant Episcopal Church in 1851. He studied for the priesthood; was ordained, and in 1856 became rector of St. Luke's, New

Haven, Conn. From 1874 till his death in 1911 he was Episcopal missionary bishop of Hawaii.

Hollyhock, a biennial plant. It is a native of China, and is a frequent ornament of gardens. There are many varieties, with single and double flowers, characterized by the tints of yellow, red, purple and dark purple approaching to black. It reaches a height of eight feet or more.

Holmes, Abiel, an American Congregational clergyman and author; father of Oliver Wendell Holmes; born in Woodstock, Conn., Dec. 24, 1763. He was pastor of the First Church, Cambridge, Mass. He died in Cambridge, Mass., June 4, 1837.

Holmes, Mrs. Mary Jane (Hawes), an American novelist; born in Brookfield, Mass., about 1839. A voluminous writer, her works are mostly domestic in character, and have had a large circulation. D. in 1907.

Holmes, Oliver Wendell, an American physician, surgeon and author; born in Cambridge, Mass., Aug. 29, 1809. He was graduated at Harvard. He began the study of law, but in a short time relinquished it for that of medicine. In 1839 he became Professor of Anatomy and Physiology in Dartmouth College, N. H., but resigned after two years' service in order to devote himself to practice in Boston. In 1847 he was appointed to the chair of anatomy at Harvard, a position which he filled till 1882. At the time of the murder of Parkman by Professor Webster in the Harvard Medical College Holmes was delivering a lecture in an adjoining room. He wrote voluminously both in prose and verse, and shone as a prominent figure in the famous group associated with the "Atlantic Monthly." His most original work is "The Autocrat of the Breakfast Table," which first appeared in the "Atlantic Monthly." This professes to be the table talk of the "Autocrat" (who lives in an American boarding house), and the plan gives the author scope for touching on topics of the most varied character in a vein at times serious, at times humorous or witty, but always striking and original, while poems of high excellence are also interspersed. The poet's lyric entitled, "Old Ironsides," written when the breaking up

of the frigate "Constitution" was contemplated, became very popular and saved the famous vessel from destruction. He died Oct. 8, 1894.

Holmes, Oliver Wendell, Jr., an American jurist; son of Dr. Oliver W. Holmes; born in Boston, Mass., March 8, 1841; was graduated at Harvard College in 1861. He had hardly been awarded his degree at Harvard in 1861 when he enlisted in the 20th Massachusetts regiment. When he was wounded at Antietam, Sept. 17, 1862, he was a captain in his regiment. When he was mustered out he was a brevet lieutenant-colonel. Associate justice of Massachusetts Supreme Court, 1882-89, became chief-justice, 1899; and associate justice in the U. S. Supreme Court, 1902.

Holmes, William Henry, an American geologist; born near Cadiz, Ohio, Dec. 1, 1846. For archaeological study he made a visit to Mexico in 1882, and in 1889 he was appointed to supervise the archaeological explorations of the bureau of ethnology. In 1892 he became Professor of Archaeological Geology in the University of Chicago, Chief U. S. Bureau of Ethnology, 1902-09; Head Curator of Anthropology, National Museum, 1910-20; Director, National Gallery of Art, 1920-. He is an authority on the subject of aboriginal art.

Holocaust, a sacrifice, the whole of which was consumed by fire, nothing being retained; such sacrifices were practiced by the Jews. The word is now sometimes applied to a general sacrifice of life or slaughter.

Holograph, any writing, as a letter, deed, will, or document, wholly written by the person from whom it proceeds.

Holst, Hermann Eduard von, a German-American historian; born in Fellin, Livonia, Russia, June 19, 1841. Coming to the United States in 1866, he engaged in literary work and lecturing; he returned to Europe, becoming professor in the Universities of Strasburg and Freiburg; appointed Professor in the University of Chicago, he came to this country again. He has written: "Constitutional and Political History of the United States"; "Constitutional Law of the United States," etc. He died Jan. 20, 1904.

Holstein, a princely German family, which includes the royal line of Denmark and the collateral branch of Holstein-Gottrop.

Holt, Henry, publisher and author; b. Baltimore, Jan. 3, 1840. Graduated from Yale and Columbia Law School, became a publisher, 1863. He wrote "Sturmsee" and "Calmire," published anonymously; the authorship was revealed in 1906. Died, 1926.

Holy Alliance, a league proposed by Alexander I., Emperor of Russia, Sept. 26, 1815, after the defeat of Napoleon at Waterloo had cleared the way for the execution of his desire of establishing a settled peace in Europe. Alexander, Francis of Austria, and Frederick William III. of Prussia, signed with their own hands and without the countersign of a minister the act establishing this alliance, which is said to have been in the handwriting of the first. It consisted of a declaration that in accordance with the precepts of the Gospel of Jesus Christ the principles of justice, charity, and peace should be the basis of their internal administration, and of their international relations, and that the happiness and religious welfare of their subjects should be their great object. It was also stipulated that the three sovereigns should invite others to become members of the Holy Alliance. In Russia and Germany its principles were not discussed except in a spirit of eulogy, but they were uncompromisingly condemned in Great Britain by many of her foremost statesmen. The events of 1848 broke up the Holy Alliance. It had previously lost much of its authority from the death of Alexander and the French revolution of 1830. Part of the aim of the Holy Alliance was the extension of the monarchical system to America. This was defeated by the Monroe doctrine.

Holy City, an appellation given by different peoples to that particular city whence proceed all their religious traditions and worship. By Jew and Christian, Jerusalem is so named; by Catholics, Rome; by Mohammedans, Damascus, Mecca, and Medina; by the Hindus, Benares; by the Mohammedans of India, Allahabad; by the ancient Incas, Cuzco.

Holy Coat, a coat, alleged to be the seamless vestment worn by Jesus at His trial, and for which, after His crucifixion, the soldiers cast lots (John xix: 23, 24). Several exist, the custodians of each claiming that it is the genuine one.

Holy Cross, the alleged actual cross on which Christ suffered. Rufinus, Socrates, Sozomen, Theodoretus, and others, relate the discovery (about A. D. 326) by Helena, mother of Constantine, of three crosses, with the inscription in Greek, Hebrew, and Latin. The question which of the three was the cross of Jesus was claimed to be settled when, on the suggestion of Marcarius, Bishop of Jerusalem, trial was made which could work miracles, and it was declared that only one had this power. Eusebius, who was well acquainted with the parties concerned, seems never to have heard of these alleged discoveries.

Holy Cross College, an educational institution in Worcester, Mass.; founded in 1843 under the auspices of the Roman Catholic Church.

Holy Ghost, the Holy Spirit; the third person in the Trinity, whom the Saviour promised to send to comfort His disciples (John xiv: xv.; and xvi.). The doctrine of the "Filioque," asserting the "Procession" from the Father and the Son, formed one of the chief points of dispute which led to the separation of the Greek and Roman Churches — the former contending that he proceeds from the Father only.

Holy Ghost, Order of, an order of male and female hospitaliers, founded by Guy, son of William, Count of Montpellier, toward the end of the 12th century, for the relief of the poor, the infirm and foundlings. After the middle of the 18th century it was united with the order of St. Lazarus by Clement XIII. This was also the name of the principal military order in France instituted in 1578 by Henry III., abolished in 1789, revived at the Restoration, and again abolished in 1830.

Holy Ghost Plant, a tropical flower growth. In Mexico, Central and South America, and in some parts of Cuba and Jamaica this beautiful plant grows in great profusion. This plant, also known as the botanical

dove, is called the Holy Ghost plant on account of the shape of the flower, which has the appearance of a dove with expanded wings hovering over the stalk. The entire flower, which is pure white, opens from the end of a long green stem and is very fragrant.

Holy Grass, a sweet-smelling grass about a foot high, with a brownish glossy lax panicle. It is sometimes strewn on the floors of churches on festival days, whence its name.

Holy Land, a name generally given among modern peoples to Palestine, the scene of the Christ's birth, ministry, and death. Arabia is so named by Mohammedans because Mohammed was born there. The Buddhists of China call India the Holy Land, because it was the country of Sakya Muni.

Holy League, a league, founded in 1576, to prevent Henry of Navarre, who at the time was a Protestant, from ascending the French throne. At his becoming a Roman Catholic, in 1593, the league was dissolved, and he became king under the title of Henry IV.

Holy Mountain, a name given by modern Greeks to Mount Athos. The flanks of this eminence are dotted with 22 convents, besides a number of chapels, cells, grottoes, caves, etc., the abodes of over 3,000 monks and hermits. It was the convents of Mount Athos that yielded so many priceless MSS. of ancient literature.

Holy of Holies, in Judaism, the inner or most sacred apartment, first to the Tabernacle, then of the Temple, into which none was permitted to enter but the high priest, and he only once a year, and then "not without blood."

Holyoke, a city in Hampden county, Mass.; on the Connecticut river and the Boston & Maine and other railroads; 8 miles N. of Springfield; has exceptional water-power from the river; manufacturers cotton and woolen goods; is best known for its immense output of writing and other papers. Pop. (1930) 56,537.

Holy Places, the sites in Palestine connected with the ministry and death of Christ, especially those traditionally located within the Church of the Holy Sepulcher.

Holy Roman Empire, a title which the German Empire received in 902 when Otho I. was crowned at Rome by Pope John XII. It came to an end when Francis II. became hereditary emperor of Austria in 1804.

Holy Rood, a cross or crucifix; especially one placed on the rood-beam in churches over the entrance to the chancel. Holy rood day is a festival kept on Sept. 14, in commemoration of the exaltation of the Saviour's Cross. Also called holy cross day.

Holy Sepulcher, the sepulcher in which the body of Jesus was laid between His death and His resurrection. Also the Byzantine Church, built at Jerusalem on what is by some believed to be the site of the sepulcher. The Order of the Holy Sepulcher is an order founded by Godfrey of Bouillon, the commanding chief, revived by Pope Alexander VI., in 1426, and reorganized in 1847 and 1868.

Holy Thursday, in the Protestant Episcopal Church, Ascension Day; in the Roman Church the Thursday in Holy-week, Maundy Thursday.

Holy Water, in the Roman Catholic Church, water which has been blessed, or consecrated, by an appropriate service, and used to sprinkle the worshippers and the things used in the church.

Holy Week, or **Passion Week**, the week which immediately precedes Easter, and is devoted especially to commemorate the passion of our Lord. The days more especially solemnized during it are Spy Wednesday, Maundy Thursday, Good Friday, and Holy Saturday. It is an institution of very early origin, and is known as Great Week, Silent Week, Penitential Week, etc. Spy Wednesday was a name given in allusion to the betrayal of Christ by Judas Iscariot. Maundy or Holy Thursday specially commemorates the institution of the Eucharist.

Homage, in feudal law, a formal acknowledgment made by a feudal tenant to and in presence of his lord on receiving the investiture of a fief or coming to it by succession, that he was his vassal.

Home, Daniel Dunglas, a Scotch spiritualist; born near Edinburgh, March 20, 1833. He was taken by an aunt to the United States, where by

E.-40.

1850 he had become a famous medium. He began the study of medicine, but was persuaded by his friends to practise spiritualism instead; and in 1855 he removed to London to carry on his "mission." He made many converts, though not all the great people he claimed. He was presented at several courts, and to the Pope; and he joined the Roman Catholic Church, but was ultimately expelled for spiritualistic practices. He died in Auteuil, June 21, 1886.

Home, Mark Antony de Wolfe, an American clergyman; born in Bristol, R. I., April 5, 1809; was graduated at Brown in 1828; and became a Protestant Episcopal priest in 1833. Having held various rectorships he was in 1865 consecrated Bishop of Central Pennsylvania. He died in Bristol, R. I., July 31, 1895.

Homer, a poet of ancient Greece, whose birthplace and date are entirely unknown. Seven cities or more, of ancient Greece, claimed him as a native, and he is generally conjectured to have lived between 1000 B. C. and 700 B. C. His greatest works are the "Iliad" and the "Odyssey." The "Iliad" is the story of the siege of Ilium (Troy), and the attempt to rescue Helen, the wife of Menelaus, King of Sparta, whom Paris, son of Priam, King of Troy, had abducted.

The "Odyssey" relates the return through many hardships and adventures, of Odysseus (Ulysses) to his home after the siege of Troy, his welcome by his faithful wife Penelope, and punishment of her presumptuous suitors. The style of these poems is simple and noble, the action rapid, the theme dramatic and heroic. Their main author, usually called Homer, was, by all the ablest critical opinion of generations, one of the great master poets of the world. The busts of Homer and all representations are, of course, wholly ideal.

Home Rule, in general the control of its own affairs by a separate political State; in British politics, a measure which has been more especially advocated in regard to Ireland. The leading feature of the Irish Home Rule party seems to be the establishment of a native Parliament in Ireland to conduct all local and internal legislation, leaving the general political gov-

Home Sickness

ernment of the empire to an imperial Parliament. In 1893 a Home Rule bill was passed by the Commons; but defeated by the Lords. In 1898, however, an act passed both houses of Parliament providing for a system of free local self-government in Ireland. The act followed the main lines of the legislation adopted for England and Scotland, accompanied only by such variations as were necessary owing to the special circumstances of Ireland. On Sept. 18, 1914, the royal assent was given to what was officially known as the "Government of Ireland Bill" and popularly as the "Home Rule Bill," which had passed the House of Commons in three successive sessions and had twice been rejected by the House of Lords. As this act was not accepted by Ulster, an amending bill was introduced in the House of Lords and passed on July 14, 1914, but it had not been introduced into the Commons when the European War broke out on Aug. 4. On Sept. 18, following, an act was passed in both Houses suspending the operation of the Home Rule Bill till after the close of the war.

Home Sickness, in medicine, Nostalgia, a disease arising from an intense feeling of grief at a separation from one's home or native land. It generally commences by a deep melancholy and may terminate fatally.

Homestead, a city in Allegheny co., Pa., 10 miles S. E. of Pittsburg. It is the trade center of the surrounding country; is the seat of the Carnegie steel works; and has several glass works and machine shops. On July 6, 1892, labor troubles culminated in a serious riot, provoked by the introduction of Pinkerton detectives in the mills. The riot was subdued with much difficulty, and considerable loss of life by the State militia. Pop. (1926) Est.) 21,600.

Homestead and Land Laws, laws enacted by Congress or by State Legislatures with a view to providing and securing persons or families the possession of a home and land. Under the United States laws any citizen or person who declares intentions to become a citizen, male or female, 21 years old, or head of a family, may become the possessor of a homestead of 80 or 160 acres, by occupation and

Homicide

cultivation, to be taken from unserved public lands, surveyed or unsurveyed. Fee of \$5 or \$10 is required to be paid of filing affidavit of settlement, citizenship, age or family status. Total fee is from \$26 to \$34, according to the land district. Five years' residence and cultivation are required, but only three are demanded where 5 or 10 acres of forest trees have been cultivated. Ex-Union veterans or their heirs obtain patent one year after residence. Benefits are limited to one claim, except that veterans who have made one land settlement may also take a homestead claim. Under timber culture provisions homestead locators may secure another 160 acres, including timber area, by cultivating 40 acres of trees. A homestead is free from debt liability before patent issues. Original homestead entries in the different States in the year ended June 30, 1916, aggregated 13,628,107 acres, and final entries, 7,378,270; area unappropriated, 294,945,589 acres.

Public lands are surveyed into "hundreds," 10 miles square; then into "sections" of 1 mile square, again subdivided into quarters, and down to eighthths. This is known as the rectangular system. A general land-office, forming a bureau of the Interior Department, is in charge of land administration. Each State and Territory has a surveyor-general, and each congressional district a land-office. In the Territories these are provided as required. A large portion of the domain acquired from Mexico still remains subject to private grants. The land laws of Hawaii were drawn up with the design of protecting small holders.

Homicide, the killing of any human being. Homicide is of three kinds—justifiable, excusable, and felonious. The first has no stain of guilt; the second very little; but the third is the highest crime that man is capable of committing against a fellow-creature. Justifiable homicide is of various kinds, including such as arise from unavoidable necessity or accident, without any imputation of blame or negligence in the person killing. Homicide in the course of justice, in the execution of any criminal or civil process, is of this kind. The necessity must, however, be real and

apparent in all cases of this sort. Homicide is justifiable in the prevention of any atrocious crime, as an attempt to murder, or to break into a house during the night. Justifiable homicide does not apply to crimes which are unaccompanied by violence, such as the picking of pockets, etc. The general principle of the law is, that when a crime in itself capital is endeavored to be committed by force, it is lawful to repel that force by the death of the party attempting it. Excusable homicide is committed either by misadventure or in self-defense. Homicide by misadventure is where a man doing a lawful act, without any intention of hurt, and using proper precaution to prevent danger, unfortunately kills another; as when a man is at work with a hatchet, the head flies off and kills a bystander; for the act is lawful, and the effect is merely accidental. As prize-fighting and sword-playing are unlawful, if either of the parties engaged be killed, such killing is felony or manslaughter. Homicide in self-defense, from a sudden affray or quarrel, is rather excusable than justifiable. Felonious homicide is an act of a very different character from the two former, being the killing of a human creature, of any age or sex, without justification or excuse. It is divided into three classes—murder, manslaughter, and self-destruction.

Homiletics, the art of preaching; that branch of practical theology which teaches the principles of adapting the discourses of the pulpit to the spiritual benefit of the hearers, and the best methods which ministers of the Gospel should pursue for instructing their hearers by their doctrines and example.

Homily, a sermon addressed to a congregation of people; a plain, familiar discourse on some religious topic. The "Book of Homilies," is the name given to a collection of sermons, setting forth the principal doctrines of Christianity, and pointing out the principles of Protestantism, of which the first part was published by Archbishop Cranmer in the reign of Edward VI., and the second by order of Convocation in that of Elizabeth.

Homeopathy, the system of medicine which aims at curing diseases

by administering medicines which produce symptoms similar to those which they are designed to remove. The Latin dictum on the subject is, when translated, "like cures like." Its founder was Samuel Hahnemann (1755-1843); born in Meissen in Upper Saxony. The system has many advocates in the United States and abroad.

Honduras, a republic of Central America; bounded by Nicaragua, Guatemala, the Caribbean Sea and the Pacific Ocean; area, 46,262 square miles; pop. (1926) 760,565; capital, Tegucigalpa. The country is generally mountainous, and is traversed by the Cordilleras, connecting the Andes on the S. with the Sierra Madre on the N. The rivers are numerous though small. The republic has nearly 500 miles of sea coast with numerous fine harbors.

The climate is mild in the higher regions and semi-tropical in the lowlands. Agriculture is the principal occupation of the people. The chief products are bananas, tobacco, sugar, maize, coffee, indigo, rice, and wheat. The mineral resources include gold, platinum, silver, copper, lead, zinc, iron, antimony, nickel and cobalt. Honduras is essentially a cattle raising country. In 1914 there were 489,144 head of cattle, and about 150,400 acres were devoted to pasture.

The foreign commerce is carried on principally with the United States and Great Britain. The principal articles of export are bananas, cattle, coffee, cocoa, and wood. The metallic exports are gold, silver, and other metals.

Under the charter of 1894 the government is that of a republic. The legislative power is vested in a Congress of Deputies, one for every 10,000 inhabitants. The executive authority rests with the president elected by popular vote every four years, assisted by a Council of Ministers, to whom are intrusted the Departments of Interior, Public Works, War, Finance, Public Instruction, and Justice. As a matter of fact the changes of government are usually decided by military resolutions, and the country is the favorite foreign resort of American desperadoes and outlaws, some of whom wield considerable influence there.

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The constitution grants freedom to all creeds, but the Roman Catholic is the strongest. Instruction is free, compulsory, and entirely secular.

Honduras was discovered by Columbus in 1502, conquered by Cortez in 1523, joined the Republic of Central America in 1821 and became an independent State in 1839. In 1894 the present constitution was adopted. In 1906, Honduras and Salvador were at war with Guatemala; in 1916 the free part of Puerta Herrera was constituted.

Honduras, Bay of, a wide inlet of the Caribbean Sea, having on the S. Guatemala and Honduras, and on the W. British Honduras and Yucatan.

Honey, a product primarily of a vegetable character, in many plants existing at the base of the corolla, sometimes in a more or less elongated tube, closed at the lower end, called by Linnaeus, on account of its contents, a nectary. Neuter bees collect it to store against winter, and swallowing it by means of their proboscis, transfer it to a distended portion of the oesophagus, called the honey-bag. There certain chemical changes take place upon it, so that when placed, as it ultimately is, in the honey-comb, it is not, as at first, exclusively a vegetable product. When elaborated by young bees it is whiter than in other cases, and is called virgin honey. When obtained by the bees from some plants, it is poisonous. Honey is used as an article of food.

Honey Ant, an ant inhabiting Mexico, and living in communities in subterranean galleries. In summer a certain number of these insects secrete a kind of honey in their abdomens which become so distended as to appear like small pellucid grapes. Later in the season when food is scarce these ants are devoured by the others, and they are also dug up and eaten by the inhabitants of the country.

Honeycomb, the hexagonal cell formed by the hive bee for the reception of honey and for the eggs of the queen bee, and a habitation for the larva of the insect till reaching maturity.

Honey Dew, a viscid saccharine exudation which is often found in

Hong-Kong

warm dry weather on the leaves and stems of plants, occurring on both trees and herbaceous plants. Orange and lemon plantations sometimes suffer great injury from the abundance of honey dew; and it has proved a cause of very great loss in the coffee plantations.

Honey Locust, Sweet Locust, or Black Locust, a forest tree belonging to the United States. The leaves are pinnated, divided into numerous small leaflets, and the foliage has a light and elegant appearance. This tree is especially remarkable for its formidable thorns, on which account it has been recommended for hedges.

Honeysuckle, a common shrub. It flowers from June to September. A cultivated variety is common in gardens. It is called also woodbine and by Milton twisted eglantine.

Hong-Kong, or Hiang Kiang (The Fragrant or Flowing Streams), a small island off the S. E. coast of China, in the province of Quang-Tong, now belonging to the British. It is situated at the mouth of the estuary that leads to Canton, from which it is distant S. E. 75 miles. It is about 10 miles in length and $7\frac{1}{2}$ miles in breadth, and is separated from the mainland by a strait. On the N. side of the island, and situated on a magnificent bay is the thriving town of Victoria, where the great bulk of the population is centered. The town stretches for about four miles along the shore and also ascends the hillside and the faces of the ravines above. It is generally well built, with wide streets and handsome terraces, and there is a massive sea wall along the sea front. The position of the colony of Hong-Kong is peculiar; it is merely a great commercial entrepot, itself producing little either in the way of natural products or manufactured goods; but so admirable is its situation that it has become a center of distribution and collection for China and other neighboring regions, and is a place frequented by great ocean mail steamers from all parts of the world. Hong-Kong is a free port, and there are no returns of its total trade, the chief articles of which consist of cottons and opium as imports, tea and silk as exports. The foreign commerce is chiefly carried on with the United

Honolulu

States, Singapore, Japan, Great Britain, Australia, and Germany.

Hong-Kong was ceded to Great Britain by the treaty of Canton in 1841; and again by the treaty of Nanking in 1842. The government of the colony is vested in a governor, an executive council of six officials and two others, and a legislative council of seven officials and five others. The population on the first occupation of the place by the British was only 5,000. In 1920 it numbered 625,166. In view of requirements for the defense of Hong Kong a convention was signed at Peking on June 9, 1898, leasing to Great Britain for 99 years from July 1 in that year a portion of Chinese territory 400 square miles in extent, including the port of Kaulung.

Honolulu, a city and capital of Hawaii, on the island of Oahu on Oahu Bay. It is the most important city in the Pacific islands and is an important entrepot for vessels, between the United States and Asiatic countries. Its harbor, one of the finest in the world, and accommodating the largest vessels, is formed by a deep basin in the coral reef which surrounds the island. The city is situated amid beautiful tropical surroundings and has an equable and healthful climate. Among the chief points of interest are the Palace, the Government Buildings, Roman Catholic cathedral, post-office, and the Bishop Museum, containing the celebrated feather cloaks of Kamehameha, valued at \$150,000. There are numerous churches, public schools, public library, theater, daily and weekly newspapers, telephone and telegraph, banks, electric lights and street railways, and many commercial establishments. Pop. (1920) 83,327.

Honorius, Flavius, a Roman emperor; son of Theodosius the Great; born in A. D. 384. After the division of the empire, A. D. 395, Honorius received the W. half. The principal events of his reign are the adoption of rigorous measures against paganism in 399; the invasion by Alaric in 400-403; another irruption of barbarians under Rhadagaisus, 405-406. Alaric marched on Rome and plundered it in 409, while Honorius shut himself up in Ravenna. Some of the finest provinces of the empire, Spain, Gaul, and

Hood

Pannonia, were lost in this reign. He died in A. D. 423.

Hooch, or **Hoogh, Pieter de**, one of the best Dutch painters in genre; born in 1630. He was peculiarly successful in depicting scenes, illuminated by sunlight of Dutch domestic life. He died about 1681.

Hood, Alexander, an English naval officer; born in 1727. During the American War of Independence he served much under Keppel, Rodney, and Howe, in the Channel and the Strait of Gibraltar. He died May 3, 1814.

Hood, John Bell, an American military officer; born in Owensville, Ky., June 1, 1831; was graduated at West Point in 1853. He entered the Confederate army, commanded a brigade, and was severely wounded at Gaines's Mills, at Gettysburg, and at Chickamauga, where he lost a leg and was made Lieutenant-General. He commanded a corps under Gen. J. E. Johnston in the retreat to Atlanta, and in July, 1864, succeeded him in command of the army. On Sept. 1 he was compelled to evacuate the city, and leave the road free for Sherman's march to the sea. He yet made a bold attempt to cut Sherman's communications, and, though worsted at Franklin on Nov. 30, pushed as far N. as Nashville; but here he was again defeated by Thomas on Dec. 16, and at his own request he was relieved of command. He died in New Orleans, Aug. 30, 1879.

Hood, Robin, a chivalrous outlaw of the reign of Richard I., of England. His exploits in Sherwood Forest are the subject of many admired ballads. All the popular legends celebrated his generosity and skill in archery. There is no historical evidence that Robin Hood ever existed, but no doubt there were many outlaws of his type in the period to which the legends ascribe his exploits.

Hood, Samuel Viscount, a British naval officer; born in Butleigh, England, Dec. 12, 1724; joined the navy when a boy. He was created a baronet in 1778 and promoted rear-admiral of the blue in 1780. In the following year he fought an indecisive battle with De Grasse near North Carolina; was a member of

Hood

Parliament in 1784-1788 and was re-elected in 1790; and was raised to the peerage in 1796. He died in Bath, England, Jan. 1816.

Hood, Thomas, an English poet and humorist; born in London, in 1798. During a residence at Dundee, and while only 15 or 16 years of age, he contributed articles to a local paper and magazine. From 1829 to 1837 he conducted his "Comic Annual." At the same time his pen was employed on other subjects. It was during his last illness that he contributed to "Punch" "The Song of a Shirt," "The Bridge of Sighs," and "The Lay of a Laborer." Hood is unrivalled as a punster, and he possesses a singular power of combining the humorous with the pathetic. He had the satisfaction of knowing that the pension of \$500 conferred upon him on his last illness by Sir Robert Peel was to be transferred to his wife. He died in 1845.

Hooded Seal, a species of seal, the male of which possesses a movable, inflatable, muscular bag, stretching from the muzzle to about five inches behind the eyes. Its usual range extends in America S. to Newfoundland, and in Europe to Southern Norway.

Hoofs, the horny tissues which constitute the external part of the feet of certain animals, mostly herbivorous.

Hookah, the water tobacco-pipe of Arabs, Turks, Persians, Hindus, and other Orientals. It consists of a bowl for the tobacco, a water-bottle, and a long flexible tube ending in the mouth-piece. A wooden tube leads from the bottom of the head or bowl down into the water in the bottle, and the flexible tube is continued downward by a stiff tube into the space above the water in the bottle. Thus the smoke is cooled before it reaches the mouth of the smoker.

Hooke, Robert, an English philosopher; born in Freshwater, Isle of Wight, July 18, 1635. There was no important invention by any philosopher of that time which was not in part anticipated by Hooke. His theory of gravitation subsequently formed part of Newton's; he anticipated the invention of the steam engine, and the discovery of the laws of the constrained motions of planets. He died in Gresham College, March 3, 1703.

Hooper

Hooker, Mount, a peak in the Rocky Mountains in Canada; 15,690 feet high; on the E. boundary of British Columbia.

Hooker, Isabella Beecher, an American philanthropist; born in Litchfield, Conn., Feb. 22, 1822; daughter of Rev. Dr. Lyman Beecher. She made a life study of woman's rights and duties. She died in 1907.

Hooker, Joseph, an American military officer; born in Hadley, Mass., Nov. 13, 1814; was graduated at the United States Military Academy, in 1837, and served in the Florida and Mexican Wars. In 1853 he resigned from the army, but on the outbreak of the Civil War he reentered it. He fought under McClellan and in Northern Virginia and Maryland, receiving a wound at the battle of Antietam. On account of his bravery his soldiers nicknamed him "Fighting Joe Hooker." In 1863, he was made commander of the Army of the Potomac, and in May he fought the bloody battle of Chancellorsville, in which nearly 30,000 were killed or wounded. Owing to a difference between himself and General Halleck, Hooker resigned his command (1863), but he still served as Major-General, and fought under Grant at Chattanooga, and under Sherman at Atlanta. In 1868 he retired from the army. He died in Garden City, N. Y., Oct. 31, 1879.

Hooker, Thomas, an English clergyman; born in Markfield, Leicestershire, in 1586. He came to America in 1633. In 1636 removed from Newtown (Cambridge, Mass.) to Hartford, and founded that colony, becoming minister of the First Church there. He won eminence as a theological writer and a preacher, and has a permanent historical importance for his instrumentality in drawing up the first written constitution in America—that of the Hartford Colony. He died in Hartford, Conn., July 7, 1647.

Hoop-ash, an American tree found in the forests of Ohio and in the Western States. It is a fine tree, attains a height of 80 feet, and is employed for charcoal.

Hooper, Johnson, an American lawyer and author; born in North Carolina about 1815; died in Alabama in 1863.

Hooper, Lucy, an American poet; born in Newburyport, Mass., Feb. 4, 1816. Her complete poems appeared in 1848. She died in Brooklyn, N. Y., Aug. 1, 1841.

Hooper, Lucy Hamilton (Jones), an American poet and novelist; born in Philadelphia, Pa., Jan. 20, 1835; was for some time assistant editor of "Lippincott's Magazine." Her husband being United States vice-consul-general in France, she resided after 1874 in Paris, where she was correspondent for several American newspapers. She died in Paris, France, Aug. 31, 1893.

Hooper, William, an American patriot; born in Boston, Mass., June 17, 1742; was graduated at Harvard College in 1760; practised law in North Carolina and early interested himself in the colonial struggle with Great Britain; was elected to the Continental Congress in 1774 and signed the Declaration of Independence July 4, 1776. He died in Hillsboro, N. C., October, 1790.

Hooping Cough, a spasmodic, infectious disease, usually of childhood, preceded by catarrh of from 3 to 14 days' duration. It sometimes terminates in six weeks, but often lasts as many months.

Hoopoe, a bird forming the type of a family generally classed with the bee-eaters or the honey-eaters, but also with the horn-bills. The hoopoe is about 12 inches long; it has a fine crest of pale cinnamon-red feathers, tipped with black; upper surface on the whole ashy-brown; wings black, the coverts having white bars; throat and breast pale fawn; abdomen white, with black streaks and dashes. It has a very wide range, from Burma to the British Islands and Africa.

Hoosac Mountain, a part of the Green Mountain range in Western Massachusetts, through which is pierced the most notable railway tunnel in America. The Hoosac tunnel, which has a length of nearly 5 miles, was commenced in 1851 for the line between Boston and Albany, was twice abandoned, and was finally opened in 1875, having cost the State of Massachusetts about \$18,000,000.

Hossier State, a name for Indiana. The people of the State are called

"Hossiers," a word said to be a corruption of "hussar," or "husher," formerly a colloquial name for a fighter or a bully throughout the West.

Hoover, Herbert Clark, an American engineer; born in West Branch, Ia., Aug. 10, 1874; was graduated as a mining engineer at Stanford University, Cal., in 1895; engaged for several years in geological survey, exploration, and mining work in the United States and China; was chairman of the American Relief Commission in London and of the Commission for Relief in Belgium in 1915-16. He has been a trustee of Stanford University since 1912. On March 4, 1921, he became secretary of commerce in cabinet of President Harding. Re-appointed in 1925, and resigned after his nomination for President by the Republican National Convention, July 14, 1928. Took oath of Office March 4, 1929.

Hop, a plant of the hemp family. The root, which is perennial, annually sends forth long, weak, rough, twining stems. The hop grows in the United States, in England, Belgium, and Bavaria. It is sometimes prescribed as a tonic. Hops are boiled with the wort in brewing beer.

Hope, Anthony. See HAWKINS, ANTHONY HOPE

Hopkins, Edward Washburn, an American educator; born in Northampton, Mass., in September, 1857; became professor of Sanskrit at Yale, 1895-1926, then professor emeritus; he wrote on the religions of India.

Hopkins, Esek, first admiral of the American navy; born in Rhode Island in 1718. He was appointed in 1775, by the Continental Congress, commander-in-chief of the navy, with the rank of admiral; performed several notable exploits, but failing in other undertakings he was removed in 1777 on the ground of incompetency. He died at Providence in 1802. A magnificent monument was erected to his memory.

Hopkins, Henry, an American educator; born in Williamstown, Mass., Nov. 30, 1837; was graduated at Williams College in 1858; studied for two years in the Union Theological Seminary in New York city; and was ordained in the Congregational Church in 1860. In 1861 he was commissioned

Hopkins

a chaplain in the Union army, and served in the hospital in Alexandria, Va., till 1864, when he was appointed chaplain of the 120th New York volunteers. He was chosen president of Williams College, Williamstown, Mass., on Jan. 17, 1902. D. in 1908.

Hopkins, John Henry, an American clergyman and author; born in Dublin, Ireland, Jan. 30, 1792. He was consecrated the first Protestant Episcopal bishop of Vermont in 1832. Died in Rock Point, Vt., Jan. 9, 1868.

Hopkins, Johns, an American philanthropist; born in Anne Arundel co., Md., May 19, 1795. In 1873 he gave property worth \$4,500,000 to found a free hospital; he presented Baltimore with a public park, and he also gave over \$3,000,000 to found the Johns Hopkins University in Baltimore. He died Dec. 24, 1873.

Hopkins, Mark, an American educator; born in Stockbridge, Mass., Feb. 4, 1802. He was president of Williams College in 1836-1872, and for 30 years president of the American Board of Commissioners for Foreign Missions. He died in Williamstown, Mass., June 17, 1887.

Hopkins, Moses Aaron, an American clergyman; born in Montgomery co., Va., Dec. 25, 1846; was of African descent and born a slave; learned to read at 20; and became an evangelist. In 1885 he was appointed United States Minister to Liberia. He died in Monrovia, Liberia, Aug. 3, 1886.

Hopkins, Stephen, an American statesman; born in Providence, R. I., March 7, 1707. In 1732 he was elected a representative to the General Assembly from Scituate, and was chosen speaker of that body in 1741. In 1751 he was appointed chief-justice of the superior court of Rhode Island, and, in 1756, was elected governor. He signed the Declaration of Independence. After this he was several times chosen a member of Congress. He died in Providence, July 13, 1785.

Hopkinson, Francis, an American political writer; born in Philadelphia, Sept. 21, 1737. His humorous ballad, "The Battle of the Keg," was widely known. He was one of the signers of the Declaration of Independence. He died May 9, 1791.

Horatius Cocles

Hopkinson, Joseph, an American jurist, son of Francis; born in Philadelphia, Nov. 12, 1770; was one of the ablest lawyers of his day. He wrote the famous patriotic song, "Hail Columbia" (1798), for the benefit of an actor, calling it at first the "President's March." He died in Philadelphia, Jan. 15, 1842.

Hopper, Isaac Tatem, an American philanthropist; born in Deptford, N. J., Dec. 3, 1771; joined the Hicksite branch of the Quaker sect; early distinguished himself as a benefactor of slaves, convicts and the poor, and was long treasurer of the Anti-Slavery Society. He died in New York city, May 7, 1852.

Hoppin, Augustus, an American illustrator and author; born in Providence, R. I., July 13, 1828. He was originally a lawyer. Besides illustrating works by many well-known authors, he illustrated his own books. He died in 1896.

Hoppin, James Mason, an American educator and writer; born in Providence, R. I., Jan. 17, 1820. He was a Congregational clergyman and professor at Yale. He died in 1906.

Hop Tree, an American shrub of the rue family, also called shrubby trefoil, is planted as an ornamental plant. Its fruit is intensely bitter, and is a poor substitute for hops.

Horatii, three Roman brothers, who, according to tradition, in the reign of Tullus Hostilius engaged three Alban brothers (the Curiatii), in order to decide the supremacy between Rome and Alba. Victory went to Rome, and the sole surviving Horatius was triumphantly conducted back to the city. But his sister had been betrothed to one of the Curiatii, and her demonstrative grief so enraged Horatius that he stabbed her. For this he was condemned to death, but his father and the people obtained his pardon.

Horatius Cocles, a hero of ancient Rome. When the Etrurian King Porsenna advanced against Rome (507 B. C.), tradition relates that a hero of this name, along with Spurius Lartius and Titus Herminius, held the Sublician bridge over the Tiber against the enemy, while the Romans were breaking it down behind them. When

the work was nearly finished Horatius sent back his two companions, and continued to defend the bridge till the crashing of the falling timbers and the shouts of the Romans announced the completion of the work. Though enfeebled by wounds he then plunged into the stream with his armor, and in the midst of the darts of the enemy reached the opposite bank of the Tiber in safety.

Horatius Flaccus, Quintus, a Latin lyric poet, commonly known by the name of HORACE; born near Venusia, a city lying on the borders of Lucania and Apulia, Dec. 8, 65 B. C. Poverty drove him to poetry. The talent which he displayed procured him the friendship of two eminent poets, Virgil and Varius, and to them he was indebted for his first acquaintance with Mæcenas, a refined man of the world, who was the friend and confidant of Augustus Cæsar, and who expended his wealth willingly for the encouragement of literature and the arts. Nine months after, Mæcenas received Horace into the circle of his intimate friends and after some years presented him with the Sabine estate, which Horace so often mentions in his poems. It was sufficient to maintain him in ease and comfort during the rest of his life. He died Nov. 17, 8 B. C. the same year as his friend and patron Mæcenas, near whose tomb in the Esquiline he was buried. In appreciating Horace as a lyric poet it must not be forgotten that he was the first among the Romans who formed the Roman language for lyric poetry and applied it with no small labor to the difficult Greek meters. Uninterrupted study and perseverance only could have effected so masterly a structure of the verse. It is said, indeed, and it cannot be denied, that the greater part of the odes of Horace are only imitations or translations of Greek lyrists — Archilochus, Alcæus, Stesichorus, Sappho, and others. Many have made use of this objection to detract from the poetical fame of Horace. But granting that originality cannot be attributed to Horace as a lyric poet, no one can deny it to him as a satirist. As didactic satire in general was a Roman invention, so it was Horace, who, following Ennius, Pacuvius, and Lucilius, by whom its

form and object had been defined, gave it a tone and polish of its own.

Horeb, a mountain belonging to the same ridge as Mount Sinai, where is still pointed out the rock from which water issued at the blow of Moses.

Horehound, or **Hoarhound**, in botany, a plant so hoary as to be almost woolly. The plant has an aromatic but not very agreeable odor, and contains a bitter principle and a volatile oil. It is used as a tonic, expectorant, and alterative for coughs. In the form of infusion or of bitter-sweet lozenges it is a popular remedy for coughs.

Horn, a substance which may be divided into two distinct classes. First, the branched, bony horns of the stag genus, and the simple, laminated horns of the ox genus, and other kindred genera. The first of these kinds of horn is applied to the same purposes as bone and ivory, and the manufacture is almost similar. The other kind of horn, found in the ox, antelope, goat, and sheep, consists of a number of conical sheaths inserted one into another, the innermost resting upon the vascular membrane covering the bony core. The tip is very dense, and the layers of which it is composed are scarcely distinguishable. This kind of horn appears to consist of coagulated albumen; and there is a regular connection between horns, nails, claws, hoofs, scales, hair, feathers, and even skin. The horns of oxen are the principal ones used for manufacturing purposes; the horns of bulls and cows being preferred to those of bullocks, which are thin and of a coarse texture. The horns of goats and sheep are whiter and more transparent than those of other animals.

Horn, Cape. See CAPE HOEN.

Horn, Charles Edward, an Anglo-American musician; born in London, England, in 1776; achieved success as a singer from 1809 to 1814, and wrote popular songs. He died in Boston, Mass., June 10, 1848.

Horn, Paul, a German-Persian scholar; born in 1863 at Halle, where he graduated Ph. D. at the university in 1885. In 1900 he was appointed Professor at the University of Strassburg. He has written much on Persian philology.

Horn, Hoorne, or Hornes, Philip, Count van, a Flemish soldier and statesman; born in 1518; was the son of Joseph de Montmorency-Nivelle, and of Anne of Egmont, and stepson of John, Count van Horn, who constituted him and his brother his heirs on the condition of assuming his name. Philip gradually rose to be governor of Gueldres and Zutphen, admiral of the fleet, and councillor of state. He fought at St. Quentin in 1557, and at Gravelines in 1558, and in 1559 accompanied Philip to Spain. On his return he joined the Prince of Orange and Egmont in resistance to Philip. On the arrival of Alva at Brussels he was arrested, in September, 1567, on a charge of high treason, and he and Egmont were beheaded in June, 1568.

Hornaday, William Temple, an American naturalist; born near Plainfield, Ind., Dec. 1, 1854. He was for a number of years chief taxidermist of the United States National Museum, Washington, and in 1896 became director of the New York Zoölogical Park.

Hornbeam, a small bushy tree common in Europe, and often used in hedges, as it stands cutting and in age becomes very stiff. The wood is white, tough, and hard, and is used in turnery, for cogs of wheels, etc. The inner bark yields a yellow dye. The American hornbeam is a small tree sparingly diffused over the whole of the United States. The wood is fine-grained, tenacious, and very compact.

Hornbills, a remarkable group of birds confined to Southern Asia and Africa, akin to the kingfishers and the toucans, remarkable for the very large size of the bill, and for an extraordinary horny protuberance by which it is surmounted, nearly as large as the bill itself, and of cellular structure within.

Hornblende, or Amphibole, one of the most abundant of minerals, remarkable on account of the various forms of its crystals and crystal-line particles, and of its exceedingly diversified colors. It is sometimes in regular distinct crystals, more generally the result of confused crystallization, appearing in masses composed of laminae, acicular crystals, or fibres, variously aggregated. It enters largely into the composition and forms a

constituent part of several of the trap-rocks, and is an important constituent of several species of metamorphic rocks, as gneiss and granite. In color hornblende exhibits various shades of green, often inclining to brown, white, and black, with every intermediate shade; it is nearly transparent in some varieties, in others opaque; hardness about the same as felspar; specific gravity, 3:00. Its chief constituents are silica, magnesia, and alumina.

Hornbook, the primer or apparatus for learning the elements of reading, used before the days of printing, and common down to the time of George II. It consisted of a single leaf, containing on one side the alphabet, large and small, in black letter or in Roman. Then followed a form of exorcism and the Lord's Prayer, and, as a finale, the Roman numerals. The leaf was usually set in a frame of wood, with a slice of transparent horn in front—hence the name of horn-book.



HORNBILL.

Horne, Richard Henry (or Richard Hengist Horne, as he called himself after his return from Australia), an English poet and miscellaneous author; born in London, England, Jan. 1, 1803. He served in the Mexican navy during the Spanish War; afterwards traveling in the United

States. His chief work is "Orion: an Epic." He died March 13, 1884.

Hornell (changed from Hornells-ville in 1906), city in Steuben county, N. Y.; on the Canisteo river and Erie and other railroads; 60 miles S. of Rochester; is a trade center for a large farming section. Pop. (1926) 16,250. (1930) 16,250.

Hornet, the largest species of wasp found in America. The thorax is mostly black; the abdomen is yellow, with three brown points. The sting is very painful. The hornet is a



HORNET.

very voracious insect, seizing and devouring bees and other insects, or carrying them to its nest to feed its young. The nest is commonly in some sheltered place.

Hornet, The, a ship of the American navy in the War of 1812. She was of 18 guns rating and 480 tons burden, and was commanded by Capt. James Lawrence, afterward commander of the "Chesapeake." On Dec. 13, 1812, she blockaded the "Bonne Citoyenne" at San Salvador. On Feb. 24, 1813, she fell in with two British warships, the "Espingle" and "Peacock," and captured the latter vessel.

Hornpipe, the name of an old wind instrument of the shawm or wait character, receiving its name from the fact that the bell or open end was sometimes made of horn. Also a dance so called from the instrument to which it was danced.

Horn Silver, native chloride of silver, so called because when fused it assumes a horny appearance.

Horology, that branch of science which treats of the principles and construction of machines for measuring and indicating portions of time. Undoubtedly the motions of the heavenly bodies form the best standard for measuring time included within lengthened periods; but for the computation of such short divisions as hours, minutes, and seconds, we must call to our aid certain mathematically adjusted machines, the knowledge of whose construction is regulated by the science of horology. At the present day no country in the world surpasses the United States in the manufacture of clocks.

Horoscope, in astrology, an observation of the sky and the configuration of the planets at a certain moment, as at the instant of a person's birth, from which the astrologer claimed to be able to foretell the future. Also a scheme or plan of the 12 houses or 12 signs of the zodiac, in which is marked the disposition of the heavens at a particular moment, and by which astrologers pretended to be able to foretell the fortunes of persons according to the position of the stars at their birth.

Horse, an ungulate or hoofed mammal. The horse proper is characterized by the tail being furnished with long hairs from its base; by the long and flowing mane; by the possession of a bare callosity on the inner surface of the hind as well as of the fore legs; and by the head and ears being smaller and the limbs longer than in the ass and other species related to the horse. The native country of the horse seems to have been Central Asia. It became early domesticated in Egypt. It is mentioned throughout the Bible. The people of Thessaly were excellent equestrians, and probably first among the Greeks who broke horses in for service in war; whence probably arose the fable that Thessaly was originally inhabited by centaurs. "Solomon had 40,000 stalls of horses for his chariots, and 12,000 horsemen," 1014 B. C. (I Kings iv: 26.) The Greeks and Romans had some covering to secure their horses' hoofs from injury. In the 9th century horses were only shod

in time of frost. Shoeing was introduced into England by William I., in 1066.

It is believed that the original breed of horses is extinct, and that the half-wild herds existing in many places have descended from animals once in captivity. Thus when the horse was first introduced by the Spaniards in 1537 at Buenos Ayres, there were no wild horses in America. But individuals escaping ran wild, and by 1580 their descendants had spread over the continent as far as the Straits of Magellan. Their favorite abode is on the Pampas, where they now exist in untold numbers. But there was found in La Plata a now extinct species of horse, and more Equidae have been found in the New than in the Old World. The horse may have descended from a striped ancestor, stripes still sometimes remaining, especially in duns and mouse-duns. His present colors are brown, gray, or black, sometimes with roundish pale spots. His age is ascertained by examining first which teeth are developed, and then to what extent they have been worn away by use. They are best tamed by kindness. Like other domestic animals, the horse has run into various breeds. The most celebrated is the Arab horse. Great attention is given in America to the breeding of horses, and American horses have won races both in England and on the Continent. The fear that the horse would go out of fashion on account of bicycles and automobiles seems unfounded. A similar fear was expressed when the railway took the place of the stage-coach.

Horse Chestnut, a handsome genus of trees or shrubs, having large opposite digitate leaves, and terminal panicles of showy white, yellow, or red flowers. The seeds are large and farinaceous, and have been used as food for animals; they are bitter. Three species are found in North America, where in Ohio, they are popularly known as buckeye (q. v.).

Horse Guards, in England, the name given to the headquarters of the British army. It is situated in London, and takes its title from two mounted troopers of the "Royal Horse Guards," who are posted as sentries at the entrance. It forms a distinct establishment from that of the War Office, the

latter controlling the financial and legislative department of military affairs under the direction of the Secretary of War, while the Horse Guards has the executive charge under the orders of the commander-in-chief.

Horse Power, the measure of a steam engine's power, as originally settled by James Watt, being a lifting power equal to 33,000 pounds raised one foot high per minute. Thus an engine is said to be of 100 horse power (h. p.) when it has a lifting capacity equivalent to 3,300,000 pounds one foot high per minute. To ascertain the horse power of an engine multiply together the pressure in pounds on a square inch of the piston, the area of the piston in inches, the length of the stroke in feet, and the number of strokes per minute, divide the result by 33,000, and the quotient, less one-tenth, allowed for loss by friction, will give the horse power. Engines are frequently said to be of so many horse power nominal; the real or indicated horse power, however, often exceeds the nominal by as much as three to one.

Horseradish, a plant commonly found as an alien, or a denizen, in ditches, corners of fields, etc. It is acrid and stimulating. It is used in pharmacy in the preparation of compound spirit of horseradish. Horseradish is used in a fresh state as a condiment with meats.

Horseshoeing, the art of fitting the equine hoof with a protective rim. In olden times horses generally went unshod, as they now do in many eastern countries; but our macadamized roads and paved streets, fast paces and heavy loads, would speedily wear away the stoutest hoofs, and a rim of iron has accordingly been long in use as a protection.

Horsetail, among the Turks and other Eastern nations, the tail of a horse mounted on a lance, and used as a standard of rank and honor. The three grades of pashas are distinguished by the number of tails borne on their standards, three being allotted to the highest dignitaries or viziers, two to the governors of the more important provinces, and one to those of less important districts.

Horsford, Eben Norton, an American chemist; born in Moscow,

N. Y., July 27, 1818; received an academic education; was for some time principal of the Albany Female Academy; later studied chemistry in Germany under Baron Liebig; was Rumford Professor at Harvard College from 1847 to 1863; was one of the founders of Lawrence Scientific School; and was interested in proprietary articles. He died in Cambridge, Mass., Jan. 1, 1893.

Horsley, Samuel, an English bishop; born in 1733. Horsley was the greatest theological controversialist of his day, and is famous for his controversy with Priestley on Unitarianism. He died in 1806.

Hortense Eugenie de Beauharnais, daughter of Josephine, the consort of Napoleon I., and of the Vicomte de Beauharnais, her first husband; born in Paris in 1783; died in 1837. She was the sister of Eugene de Beauharnais; wife of Louis Bonaparte, brother to Napoleon I.; and mother of Napoleon III. See BEAUHARNAIS; BONAPARTE.

Hortensius, Quintus, Roman dictator and legislator; born about B. C. 350; died B. C. 286. His LEX HORTENSIA ended patrician opposition, by decreeing that the laws passed by the plebeians were binding on all the people.

Hortensius, Quintus, Roman orator; born of an equestrian family B. C. 114; died B. C. 50. He held many military and civil offices and was elected consul for the year 69 B. C. He was a friendly opponent of Cicero, but none of his speeches have been preserved.

Horticultural Societies, societies formed for the encouragement of both the art and the science of the cultivation of garden plants. Horticultural societies have been instituted in all the principal American cities, and an earnest spirit manifested.

Horticulture, includes, in its most extensive signification, the cultivation of esculent vegetables, fruits, and ornamental plants. The practice of horticulture, especially as applied to the cultivation of ornamental plants, is as old as the oldest civilization of which anything is known. The practical objects of the cultivator of vegetable substances are:

(1) To collect useful and ornamental plants from the domains of nature, and from all quarters of the world.

(2) To adapt the soil, moisture, heat, and general culture suitable to such plants, so that they may vegetate to the full extent of their powers.

(3) By artificial means, such as blanching and other processes, to change the nature and juices of plants, whereby they are rendered more esculent.

(4) To produce new sorts or varieties, by grafting and other processes. See BURBANK, LUTHER.

Horus, an Egyptian deity, whose name, "Har," means "the day," or "the sun's path;" he is represented in hieroglyphics by the sparrow hawk, which was sacred to him. Under the name of Horus were included several deities. But the principal Horus was Horus, the son of Isis (Har-si-hesi), represented as a naked child standing, wearing a skull-cap, or the crown of Upper and Lower Egypt. When he reached manhood, he attacked his enemy Typhon, the god of darkness, and avenged on him the death of his father. He afterward traveled through Egypt, introducing everywhere civilization and the arts. His career greatly resembles that of the Apollo of the Greeks.

Hosack, David, an American physician; born in New York city, Aug. 31, 1769; was graduated at Princeton College, in 1789; became Professor of Surgery in the College of Physicians and Surgeons; made a special study of yellow fever; and published "System of Practical Nosology," etc. He died in New York city, Dec. 22, 1835.

Hosanna, a form of Jewish acclamatory prayer or blessing, derived originally from Ps. cxviii: 25. It was often uttered at the Feast of Tabernacles, at the Passover and some other feasts. Also the acclamation raised by "the whole multitude of the disciples" (Luke xix: 37) on our Lord's triumphal entry into Jerusalem. They seem to have intended by it to offer to Jesus a prayer that they might be saved, and to accord Him a joyous and loving welcome to Jerusalem. It is now employed as an acclamation of praise.

Hosea, the first of the 12 minor prophets as arranged in the Bible. He prophesied for a long time, from Uziah to Hezekiah, about 785-725 B. C. Hosea's warnings are mingled with tender and pathetic expostulations. His style is obscure, and it is difficult to fix the periods or the divisions of his various predictions. He shows a joyful faith in the coming Redeemer, and is several times quoted in the New Testament (Matt. ix: 13; Rom. ix: 25, 26; I Pet. ii: 10).

Hosmer, Harriet, an American sculptor; born in Watertown, Mass., Oct. 9, 1830; studied at Rome; and among her best-known works are "Beatrice Cenci"; statues of Thomas H. Benton, Queen Isabella, and the Queen of Naples; and a number of ornamental fountains. D. in 1908.

Hosmer, James Kendall, an American librarian and author; born in Northfield, Mass., Jan. 29, 1834; was professor in Antioch College 1866-1872; the University of Missouri, Columbia, Mo., 1872; Washington University, St. Louis, Mo., 1874-1892; and became librarian of the public library of Minneapolis in 1892. D. 1927.

Hosmer, Mrs. Margaret (Kerr), an American novelist; born in Philadelphia, Dec. 1, 1830. Her home was in San Francisco, where she taught school, and in Philadelphia. She died in Philadelphia, Feb. 1, 1897.

Hosmer, William Henry Cuyler, an American author; born in Avon, N. Y., May 25, 1814; died in Avon, May 23, 1877.

Hospice, a little convent belonging to a religious order, occupied by a few monks, and destined to receive and entertain traveling monks; or houses of refuge and entertainment for travelers on some difficult road or pass, as the Hospice of the Great St. Bernard.

Hospital, any building for the reception and treatment of sick, injured or infirm persons. They are supported in most cases by voluntary contributions, but in special instances from the funds of the government, State or civic municipalities. Hospitals are of various kinds: medical; surgical; for the reception of incurables; for consumptives; for the deaf, dumb and blind; for the aged and infirm; for the care and treatment of the insane;

emergency and field hospitals for the care of wounded in battle; etc.

Hospitals or asylums for inebriates, likewise hospitals for those addicted to the use of opium and other narcotics, have lately been established throughout the United States. Fever hospitals are maintained in all communities to secure isolation in infectious diseases, and hospital ships and floating hospitals are extremely valuable to promote complete isolation in cases of virulently infective disorders, such as smallpox, etc. Children's hospitals are often provided with swimming tanks, indoor and outdoor playing, large ball and tennis grounds, and in fact any and everything to promote healthy exercise and pastime for the inmates.

Military and naval hospitals, establishments for the care of sick and wounded soldiers and seamen, exist in all civilized nations. They are either temporary or permanent, and if the former located in the immediate vicinity of the scene of operation.

Hospital ships are ships fitted out as hospitals in all expeditions beyond the sea. They serve either as stationary hospitals, or if the sick accumulate, sail home to the nearest station.

Hospitallers, or Order of St. John of Jerusalem, a military order originated in a monastery, chapel, and hospital, founded at Jerusalem by some merchants of Amalfi, in 1048. The Hospitallers greatly distinguished themselves in the crusades, especially at Jerusalem in 1152, and at Acre in 1191. In 1321 they defeated the Turks in a great naval battle, and in 1341 took Smyrna. They took Alexandria in 1365, and in 1480 compelled Mohammed II. to retreat from Rhodes, which he had besieged with 100,000 men and 160 ships. In 1484 the possessions of the dissolved orders of the Holy Sepulcher and of St. Lazarus were bestowed upon the Hospitallers. In 1522 they were compelled to quit Rhodes by Soliman II., who besieged their garrison of 600 knights and 4,500 soldiers with a force of 140,000 men and 400 vessels, and in 1530 they were allowed to settle in Malta.

Host, the consecrated bread or wafer used by the Roman Catholic Church in her celebration of the eucharist. It is unleavened, thin, flat,

and of circular form, and has certain mystic signs impressed on its surface. The host is supposed after being blessed to be no longer bread, but to be transformed into the real body of Christ.

Hostage, a person given in pledge or security for the performance of certain conditions, or for the safety of others.

Hostilius, Tullus, the third of the legendary kings of Rome; succeeded Numa Pompilius in 670 B. C.

Hot Blast, a stream of air forced through a furnace and heated to 500° or 600°. The hot blast effects a saving of heat, and accomplishes the reduction of the most refractory ores in less time and with a less expenditure of fuel than the cold blast.

Hotchkiss, Benjamin Berkeley, an American inventor; born in Watertown, Conn., Oct. 1, 1826; was in early life a machinist and turned his attention to the invention of deadly weapons, most notable of which are the Hotchkiss magazine rifle, and the Hotchkiss machine gun. He also invented many important improvements in projectiles and heavy ordnance. He died in Paris, Feb. 14, 1885.

Hot Springs, a city and county-seat of Garland co., Ark.; on Hot Springs creek, 55 miles S. W. of Little Rock. The name was acquired from the presence in and near the town of thermal springs numbering over 70, that flow from the side of a hill and contain valuable medicinal qualities. These springs constitute a much frequented resort for invalids, the temperature of the water often reaching 150° F. Pop. (1930) 20,238.

Hottentots, the people who were in possession of the greater part of what is now Cape Colony when it was first visited and colonized by Europeans. They are now semi-civilized, and copy the habits, customs, dress, and vices of the European colonists. In general they are of medium height, not very robust in build, and have small hands and feet. Their skin is a pale brown color; their hair woolly, growing in curly knots; their cheekbones very prominent; and their chin pointed.

Houdon, Jean Antoine, a French sculptor; born in Versailles, March

20, 1740. After studying in Italy, he returned to Paris, and executed the busts of Voltaire, Rousseau, Moliere, Franklin, Buffon, Catherine II., etc. He became, in 1778, member and professor of the Academy of Fine Arts. He was invited to the United States and carved the statue of Washington now at the Virginia State capitol in Richmond, which is considered the most authentic likeness of "the father of our country." Houdon died in Paris, July 15, 1828.

Houghton, George Washington Wright, an American author; born in Cambridge, Mass., Aug. 12, 1850; died in 1891.

Houghton, Henry Oscar, an American publisher; born in Sutton, Vt., April 30, 1823. He died in North Andover, Mass., Aug. 25, 1895.

Houghton, Richard Monckton Milnes, Lord, an English statesman; poet and prose writer; born in Fryston Hall, Yorkshire, June 19, 1809. His prose is remarkable for the purity of its Saxon style. He died in Vichy, France, Aug. 11, 1885.

Hound, a name applied to dogs used in hunting. The true hound, such as the bloodhound, the foxhound, and the staghound, hunt only by scent. In this division may also be included the bassethound (a short-legged dog used in unearthing foxes and badgers), the beagle, and the harrier. The greyhound and the deerhound run by sight alone, and are not hounds in the correct acceptance of the term.

Hour, the 24th part of a natural day; the space of 60 minutes. The early Egyptians divided the day and night each into 12 hours, a custom adopted by Jews or Greeks probably from the Babylonians. The day is said to have been first divided into hours in 293 B. C.

Hour Glass, a glass having two bulbs and a connecting opening through which the sand in one bulb runs into the other. The amount of sand and size of the opening are such that a given amount of time is consumed in the passage. Glasses of this description are yet used for marking small periods of time.

House, Edward Howard, an American journalist; born in Boston, Mass., Sept. 5, 1836; became a musical

and dramatic critic in Boston and New York; afterward Professor of English Language and Literature in the University of Tokio, Japan (1871-1873), acting as correspondent of the New York "Herald." In 1900 he was appointed director of the Imperial Court Orchestra at Tokio, Japan. He died Dec. 18, 1901.

House, Edward Mandell, an American mystery; born in Houston, Tex., July 26, 1858; was graduated at Cornell University in 1881; active in Democratic politics, but was never a candidate for office; and became widely known as a special representative of President Wilson in Europe in 1915-17. He was familiarly spoken of as Colonel House, and was believed to have large financial interests in Texas; but was a model of secretiveness concerning his confidential missions.

Household Gods, among the Romans, deities known as the Lares and Penates, and presiding over the fortunes of the house or family.

Houston, a city of Texas, and the administrative seat of Harris Co., on Buffalo Bayou, an arm of Galveston Bay, 50 miles N. W. of Galveston. It is entered by several railways, and is an important seaport, improvements in its waterways giving unobstructed communication with the Gulf of Mexico. It is one of the chief cotton and lumber marts of the South. Its educational institutions include the Rice Polytechnical Institute. Named in honor of Gen. S. Houston, the city in 1837 was capital of the Republic of Texas. Pop. (1930) 292,352.

Houston, David Franklin, an American executive; born in Monroe, N. C., Feb. 17, 1866; acquired a university education; made a special study of political science; was professor of that branch in the University of Texas in 1894-1902; President, Agricultural and Mechanical College of Texas, in 1902-5; Chancellor, Washington University, St. Louis, Mo., in 1908-13; Secretary of Agriculture, 1913-20; Secretary of the Treasury, 1921-24; Chairman Federal Reserve and Farm Loan Boards, 1920-21. Then went into business.

Houston, Samuel, an American statesman and general; born in Rockbridge co., Va., March 2, 1793; was of

Scotch-Irish descent. In 1818 he began the study of law; in 1823 and 1825 was elected to Congress; and in 1827 governor of Tennessee. On removing to Texas in 1832 he was made a general of Texas troops. In 1836 he defeated the Mexicans at San Jacinto, which resulted in the independence of Texas, and he was elected President of the new republic. In 1845 Texas entered the Union, and Houston was chosen United States Senator. He was elected governor of Texas in 1859; and was deposed for adherence to the Union in 1861. In a remarkable speech at the opening of the war he described the development and result of the conflict. He died in Huntsville, Tex., July 25, 1863.

Hovenden, Thomas, an American painter; born in Dumanway, Ireland, Dec. 28, 1840; studied art in Cork, New York and Paris, becoming an associate of the National Academy in 1881 and a national academician the following year. He was killed by a railroad train while attempting to save a little girl, Aug. 14, 1895.

Hovey, Richard, an American poet; born in Illinois, in 1864; died in 1900.

Howard, Bronson, an American playwright; born in Detroit, Mich., Oct. 7, 1842. He was connected with several newspapers in New York city, 1867-1872. He died Aug. 4, 1908.

Howard, Guy, an American military officer; born in Augusta, Me., Dec. 16, 1855, son of Gen. Oliver O. Howard; joined the United States army in 1876 as a 2nd lieutenant; was promoted captain Jan. 7, 1893; chief quartermaster, with rank of lieutenant-colonel, Aug. 11, 1898; was assigned to duty in Manila under General Lawton's command. On Oct. 21, 1899, while on the gunboat "Oceania," towing two cascoes, he was attacked by Filipino insurgents, and fatally shot. His last words were "Whatever happens, keep the launch going."

Howard, John, an English philanthropist; born in 1726. His father, a wealthy London tradesman, died when his son was about 19 years of age, and left him an independent fortune. In 1773 he resolved to devote his time to the investigation of the means of correcting the existing

abuses in the management of prisons. With this view he visited most of the English county jails and houses of correction, and in March, 1774, he laid the result of his inquiries before the House of Commons, for which he received a vote of thanks. In 1789 he published an "Account of the Principal Lazarettos in Europe." In the same year he made a final journey through Germany and Russia, when prisons and hospitals were everywhere thrown open for his inspection as a friendly monitor and public benefactor. He died of fever in Cherson in South Russia, in 1790.

Howard, Oliver Otis, an American military officer; born in Leeds, Me., Nov. 8, 1830; was graduated at Bowdoin College in 1850, and at the United States Military Academy in 1854; served in the Seminole War; was instructor in mathematics at West Point, 1857-1861; entered the Civil War as colonel of the 3d Maine Regiment; commanded a brigade at Bull Run, July 21, 1861; became Major-General of volunteers, Nov. 29, 1862; Commander of the Department of Tennessee in 1864; commissioner of Freedman's Bureau, 1865-1874; peace commissioner to the Indians of Arizona and New Mexico, 1872; Brigadier-General in 1864; Major-General, U. S. A., 1886, and was retired Nov. 8, 1894. He lectured and wrote: "Life of Zachary Taylor"; "Isabella of Castile"; etc. He was military adviser of President McKinley in the Spanish-American war. D. in 1909.

Howarth, Mrs. Ellen Clementine (Doran), an American poet; born in Cooperstown, N. Y., May 20, 1827. Her poems have been edited by Richard Watson Gilder (1868). She died in Trenton, N. J., Dec. 23, 1899.

Howe, Edgar Watson, an American editor; born in Treaty, Ind., May 3, 1854. He wrote "The Story of a Country Town," which attracted considerable attention. Published E. W. Howe's Monthly since 1911, and is known for his articles of homely philosophy signed "Ed. Howe."

Howe, Elias, an American inventor; born in Spencer, Mass., July 9, 1819. He constructed a sewing machine in 1846. He died in Brooklyn, N. Y., Oct. 3, 1867.

B-46

Howe, John Ireland, an American inventor; born in Ridgefield, Conn., July 20, 1793; was at first a physician, but in 1830 invented a pin-making machine. This he perfected later and revolutionized the pin manufacture with it. He died in Birmingham, Conn., Sept. 10, 1876.

Howe, Julia Ward, an American author; born in New York city, May 27, 1819. A philanthropist, interested especially in woman's suffrage, she was the wife of Dr. Samuel G. Howe, the philanthropist, and with him edited the anti-slavery journal, the Boston "Commonwealth." She is best known as the author of the "Battle Hymn of the Republic" (1861), written during a visit to the camps near Washington. Among her works, besides volumes of verse, are: "The World's Own" (1857), a drama; "Life of Margaret Fuller." She was active, and took keen interest in public affairs till her death in 1910.

Howe, Richard, an English naval officer; born in 1725. In 1776, with the rank of rear-admiral, he sailed for North America as joint commissioner with his brother William for restoring peace with the colonies. He died Aug. 5, 1799.

Howe, Robert, an American soldier; born in Brunswick co., N. C., in 1732; bore a prominent part in his State in the controversy with Great Britain, and on the outbreak of the Revolutionary War received a command, rising to the rank of Major-General; was later repulsed by the British and forced to evacuate Savannah. He died in Brunswick co., N. C., Nov. 12, 1785.

Howe, Samuel Gridley, an American philanthropist; born in Boston, Nov. 10, 1801. He was graduated at Brown University in 1821, and at the Harvard Medical School in 1824. In 1831 he went to Paris to study the methods of educating the blind, and on his return to Boston he established a school for the blind, his most famous pupil being Laura Bridgman. In 1851-1853, assisted by his wife, he edited the anti-slavery "Commonwealth." He died in Boston, Mass., Jan. 9, 1876.

Howe, Timothy Otis, an American statesman; born in Livermore, Me., Feb. 24, 1816; received a com-

mon school education and became a lawyer. Settling in Wisconsin he entered politics, and in 1861 was chosen United States Senator, serving till 1879. He declined a Supreme Court judgeship on the death of Salmon P. Chase, but in 1881 he accepted the postmaster-generalship in President Arthur's cabinet. He died in Kenosha, Wis., March 25, 1883.

Howe, Sir William, an English general; born Aug. 10, 1729. He was a brother of Admiral Richard Howe and successor of General Gage in the command of the British forces in America. His first exploit was the battle of Bunker Hill (1775), in which he lost one-third of his men present in the action. In August, 1776, he gained the battle of Long Island and took New York city. He obtained an advantage over the Americans at Brandywine in September, 1777, in consequence of which Philadelphia was occupied by his army. At his own request, he was recalled in 1778, and was succeeded by Sir Henry Clinton. He died July 12, 1814.

Howells, William Dean, an American author; born in Martins Ferry, O., March 1, 1837. He learned the printer's trade with his father; was afterward assistant editor on the "Ohio State Journal;" published a life of Abraham Lincoln. From 1861 to 1865 he resided in Venice as United States consul. Soon after his return appeared a series of papers under the title "Venetian Life" (1866), followed next year by a similar volume, "Italian Journeys." After his return to the United States he was engaged in an editorial capacity on the New York "Tribune," the "Nation," the "Atlantic Monthly," and "Harper's Monthly." He became President of the American Academy of Arts and Letters in 1909, and received the gold medal of the National Institute of Arts and Letters for distinguished work in fiction in 1915. His latest publications included "The Lady of the Aroostook," "Dr. Breen's Practice," "A Modern Instance," "The Rise of Silas Lapham," "Literary Friends and Acquaintances," and "Years of My Youth." Died, 1920.

Howison, Henry Lycurgus, an American naval officer; born in Washington, Oct. 10, 1837; was graduated at the United States Naval Academy

in 1858; appointed acting midshipman from Indiana, Sept. 26, 1854; promoted through various grades to lieutenant-commander, March 3, 1865; commodore, Aug. 19, 1897; rear-admiral, Sept. 30, 1898. In the Civil War he was present at the battle of Port Royal, engagements with rams off Charleston, 1862, engagements of Forts Moultrie, Sumter and Wagner, battle of Mobile Bay, etc.; was retired Oct. 10, 1899. In September, 1901, he was appointed a member of the Schley court of inquiry, and, on being challenged, was relieved from service. He died Dec. 31, 1914.

Howison, Robert Reid, an American historian; born in Fredericksburg, Va., June 22, 1820. He became at first a lawyer, then a Presbyterian clergyman, and (1894) Professor of American History in the College of Fredericksburg. He died in 1906.

Howitzer, a cannon, differing from ordinary guns in being shorter and lighter in proportion to its bore, and used for throwing shells or case-shot only, with comparatively small charges.

Howling Monkey. The animals are clumsy in make, heavy in their movement, and hang on trees by their long prehensile tails. They inhabit the warmer parts of the New World, to a certain extent corresponding to the baboons in the Old. They are the largest monkeys in South and Central America.

Howorth, Sir Henry Hoyle, an English author; born in Lisbon, Portugal, July 1, 1842. In addition to over 70 scientific memoirs, contributions to periodicals, etc., he has published: "History of the Mongols," a large work marked by profundity of research, and "The Mammoth and the Flool," which discusses the problems arising out of the destruction of the so-called paleolithic man.

Hoxie, Vinnie Ream, an American sculptor; born in Madison, Wis., Sept. 23, 1846. She executed busts of Grant, Sherman and others and a statue of Lincoln for the National Capitol. She died Nov. 20, 1914.

Hoyle, Edmond, an English writer on games; born in 1672. He is said to have been educated for the bar. Little is known about his life, except that he lived for some time in London, writing on games and giving lessons

in whist, which he invented. He died in London, England, Aug. 29, 1769.

Hoyt, Henry Martyn, an American lawyer and soldier; born in Kingston, Pa., June 8, 1830; was graduated at Williams College and became a lawyer in 1853. During the Civil War he attained the brevet rank of Brigadier-General; returned to his law practice, was made a judge, and 1878-1883 was governor of Pennsylvania. He died in Wilkesbarre, Pa., Dec. 1, 1892.

Hoyt, John Wesley, an American educator; born near Worthington, O., Oct. 13, 1831; was graduated at Ohio Wesleyan University in 1849, and later received degrees in medicine and law. He had charge of educational exhibits in several expositions, and was chairman of a committee to establish the University of the United States. He died May 23, 1912.

Hsuan-Tung (family name, Pu-Yi), Emperor of China; born in 1903; son of Prince Chun and grandson of Emperor Tao-Kuang; was nominated to the succession by Empress-Dowager Tze-Hsi, a few hours before her death and the day after the death of Emperor Kwang-Hsu; and officially succeeded Nov. 14, 1908. In 1917 he was recalled to the throne in a short-lived revolution against the republic.

Hubbard, Elbert, an American author; born in Bloomington, Ill., in 1859. His home was in East Aurora, N. Y., where he was proprietor of the famous Roycroft shop, devoted to making de luxe editions of the classics. He was editor of the "Philistine" and wrote "Little Journeys to the Homes of Famous Women;" etc. He was lost on the "Lusitania," May 7, 1915.

Hubbard, Lucius Frederick, an American soldier and physicist; born in Troy, N. Y., Jan. 26, 1836; settled in Minnesota and entered public life; enlisted as a private on the outbreak of the Civil War; and was mustered out in 1865 with the rank of Brigadier-General for conspicuous gallantry. In 1881 he was elected governor of Minnesota and was reelected, serving till 1887. In the war with Spain he was a Brigadier-General. He died Feb. 7, 1913.

Hubbard, William, an American clergyman and author; born in Tending, Essex, England, in 1621. He emigrated to Massachusetts in 1635, was graduated at Harvard College in 1642, and was minister of Ipswich for over 40 years. In 1688 he was temporary president of Harvard College. He has written extensively on historical subjects. He died in Ipswich, Mass., Sept. 14, 1704.

Hubbell, Mrs. Martha (Stone), an American novelist and writer for the young; born in Oxford, Conn., in 1814. She died in North Stonington, Conn., in 1856.

Hubner, Charles William, an American journalist and miscellaneous writer; born in Baltimore, Md., Jan. 16, 1835. He spent several years in Germany, and served in the Confederate army in the Civil War.

Hub of the Universe, a humorous appellation popularly applied to the city of Boston, Mass. It originated with Holmes.

Huc, Evariste Regis, a French missionary; born in Toulouse, France, Aug. 1, 1813. His experiences are recounted in "Souvenirs of a Journey to Tartary, Tibet, and China"; "Christianity in China, Tartary, etc.," all of which were translated into English. He died March 26, 1860.

Huckleberry. See WHORTLEBERRY.

Hudde, Andreas, a Dutch-American colonial official; born in Holland about 1599; came to New York (then New Netherlands) in 1629, and for 34 years was active in the public affairs of the colony. He died in Delaware, Nov. 4, 1663.

Huddy, Joshua, a brave partisan officer of the Revolutionary War; hung by the Tories, April 12, 1782. His death caused the greatest indignation throughout the country, and the British authorities disclaimed and repudiated the act. In retaliation, the Continental Congress, by resolution, ordered General Washington to select for execution a British officer of equal rank (captain) from among the prisoners. The lot fell on Captain Asgill, son of Sir Charles Asgill, of London. Congress afterward spared Asgill's life through the urgent intercession of the French Minister, Count de Vergennes, and the States-General of Holland.

Hudson

Madame de Sevigne made the story of Captain Asgill the subject of a tragic drama.

Hudson, Frederick, an American journalist; born in Quincy, Mass., in 1819. He was connected with the New York "Herald" for nearly 30 years, retiring in 1866. He wrote: "History of Journalism in the United States" (1873). He died in Concord, Mass., Oct. 21, 1875.

Hudson, Henry, an English navigator; born in England. He entered the service of Holland. After making three voyages to find a N. E. or N. W. passage to China, in the second of which he discovered the Hudson river, he set sail a fourth time, April 17, 1610, in a bark named the "Discovery," and proceeding W., reached in lat. 60° N. the strait bearing his name. Through this he advanced along the coast of Labrador, till it issued into the vast bay which is also called after him. Here, with his son and seven infirm sailors, he was turned adrift by a mutinous crew, and was no more heard of.

Hudson, Henry Norman, an American Shakespearean scholar; born in Cornwall, Vt., Jan. 28, 1814. He served as chaplain in the Civil War, and was Professor of Shakespeare at Boston University, and was for a time

Hudson River

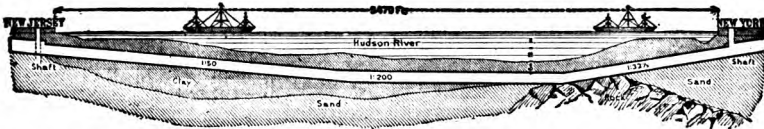
lands, and was discovered by Henry Hudson.

Hudson Bay Company, an English company, established in 1670 for carrying on the fur-trade, with the aborigines about Hudson Bay.

Hudson Bay Territory, the general name applied to a large proportion of N. W. America, extending from lat. 49° to 70° N., and from Cape Charles, Labrador, to the mouth of the Mackenzie river.

Hudson - Fulton Celebration, an international commemoration of the discovery of the Hudson river and of the first trip on it of Robert Fulton's steamboat "Clermont"; began at New York city Sept. 25, 1909; ended at Troy, N. Y., Oct. 9. The most notable features were the river parade of 41 of the world's greatest warships; the participation of reproductions of Hudson's "Half-Moon" and Fulton's "Clermont"; the great parade in New York of historic floats; the river parade to Troy; and the illumination of the warships, the Palisades, and the cities and towns along the river.

Hudson River, a river in New York State, and one of the most beautiful and important in America. It rises in the Adirondack Mountains, 4,326 feet above the level of the sea,



HUDSON RIVER.—LINE OF TUNNEL BETWEEN NEW YORK AND NEW JERSEY.

editor of the "Churchman." He died in Cambridge, Mass., Jan. 16, 1886.

Hudson, Mary (Clemmer) (Ames), an American journalist and miscellaneous writer; born in Utica, N. Y., in 1839. She was at one time Washington correspondent of the New York "Independent." She died in Washington, D. C., in 1884.

Hudson Bay, an inland sea of British North America. It covers an area of about 510,000 square miles, the S. part of which, embracing about one-fourth of the bay, is called James Bay. Hudson Bay contains numerous is-

lands, and with a S. course, runs nearly in a straight line to its mouth, at New York city. It is tidal up to Troy, 151 miles from its mouth, and below Albany, is virtually an estuary or fiord. Below Newburg, 60 miles from New York, the Highlands rise abruptly from the water to the height of 1,600 feet, and farther down, the famous Palisades, 300 to 500 feet high, extend for 18 miles along the west shore. The river, named after Hudson who explored it in 1609, connects by canals with the Delaware River, and Lakes Erie and Champlain. In 1894 a sus-

pension bridge connecting New York and Jersey city was sanctioned, but was not commenced. Several railway tunnels here connect New Jersey with New York City.

Huerta, Victoriano, a Mexican general; born in 1857; educated at the Chapultepec Military School; entered the army in 1879; became chief of the Geographical Department; supported President Madero in the early part of the revolution of 1910-1913; became Provisional President after the assassination of Madero, Feb. 22, 1913; and was recognized by several European governments, but not by the United States. National elections were held Oct. 26, 1913, without decisive results, and Huerta assumed the rôle of dictator. On Dec. 9, 1913, the Mexican Congress annulled the October elections, and made Huerta President *ad interim*. A military revolt caused him to leave Mexico, July 16, 1914. He first went to Spain; then settled on Long Island, N. Y. Suddenly disappearing, he was arrested at El Paso, Tex., June 27, 1915; was indicted on a charge of conspiring to violate the neutrality laws of the United States; and, before the time of trial, died Jan. 13, 1916.

Huggins, Sir William, an English spectroscopist; born in London, England, Feb. 7, 1824. Having in 1855 built for his own private use an observatory at Upper Tulse Hill, near London, he began what proved to be the principal work of his lifetime—the study of the physical constitution of stars, planets, comets, and nebulae. He was president of the Royal Astronomical Society 1876-1878; president of the British Association for the Advancement of Science 1891. He died May 12, 1910.

Hughes, Charles Evans, an American jurist; born in Glens Falls, N. Y., April 11, 1862. He graduated from Brown University and Columbia Law School, was professor of law Cornell University 1891-3, counsel in Legislative gas and life insurance investigations 1905-6, Governor of New York 1907-10, Associate Justice United States Supreme Court 1910-16; defeated for President, 1916. Secretary of State, 1921-1925.

Hughes, Charles Evans, Jr., only son of preceding; appointed Solicitor General to the U. S., May, 1929.

Hughes, Thomas, English author, b. Uffington, Berkshire, Oct. 20, 1823. He is best known by his first work "Tom Brown's School Days," but as a Member of Parliament, 1865-74, was interested in the welfare of workmen, co-operation and various projects for liberal socialism. He died in Brighton, Mar. 22, 1896.

Hugo, Vicomte Victor Marie, a distinguished French poet, politician, and man of letters; born in Besancon, France, Feb. 26, 1802. His father was a colonel in the French Army. He received a classical education in a religious house, and, in 1822, brought out the first volume of his "Odes and Ballads." He reflected bitterly in subsequent works on the classical style of French dramatic literature. Shortly after the revolution of July, 1830, his "Marion de Lorme," which had been suppressed by the censorship under the Restoration, was performed with success. "The King Amuses Himself" was also performed at the Theatre Francais in January, 1832, but was interdicted by the government the day after.

Hugo, who published afterward a number of dramatic pieces of various merit, was, after much opposition, admitted to the Academy in 1841, and was created a peer of France by Louis Philippe. In 1849 he was chosen president of the Peace Congress of which he had been a leading member. On the coup d'état of Dec. 2, 1851, Hugo, then a member of the legislative assembly, was among those deputies who vainly attempted to assert the rights of the assembly and to propose the constitution. His conduct led to his proscription. He took refuge in the island of Jersey, and subsequently in that of Guernsey, having steadfastly refused to avail himself of the general amnesties issued in 1859 and in 1869. He wrote much after he had left France. His very trenchant satire, "Napoleon the Little," appeared at Brussels in 1852, and was rigorously suppressed by France, into which country it had been smuggled. On the fall of the empire in 1870 he returned to France, was elected to the National Assembly, but soon resigned and re-

paired to Brussels, whence he was expelled by the government on account of the violence of his political writings and his sympathy with the Communists. Returning to Paris, he was (1876) elected a senator for six years. He died in Paris, May 22, 1885, and was buried in the Pantheon.

Huguenot, a nickname formerly applied by the Roman Catholics to the Protestants of France, who were nearly all Calvinists, and who converted the appellation into one of honor instead of reproach. It's notable incidents were the Massacre of St. Bartholomew and the Revocation of the Edict of Nantes.

Hull, city, port of entry, and capital of Ottawa county, Quebec, Canada; on the Ottawa river, the Chaudière Falls, and the Canadian Pacific railway; opposite Ottawa, with which it is connected by a fine suspension bridge; is in a lumber, phosphate, iron, and mica section; has excellent water-power; and is engaged in manufacturing and mercantile business. Pop. (191) 32,460.

Hull, Edward, an Irish geologist; born in Antrim, Ireland, May 21, 1829. As a member of the Geological Survey of Great Britain for 20 years, he geologically mapped a large portion of the central counties of England. In 1869 he became Professor of Geology at the Royal College of Science, Dublin; and in 1883 commanded an expedition under the auspices of the Palestine Exploration Society to Arabia, Petraea and Palestine. He has written much about the British coal supply.

Hull, Isaac, an American naval officer; born in Derby, Conn., March 9, 1775. In July, 1812 he commanded the frigate "Constitution," which was chased by a British squadron for three days, but escaped by skillful sailing. While cruising in the Gulf of St. Lawrence he met the British frigate "Guerriere," which, after a bloody fight for half an hour, surrendered, Aug. 19, 1812. The "Guerriere" was so injured in the battle that she soon sank. The British ship lost 100 men; the "Constitution" had 14 men killed and wounded, and within an hour or so was ready for another fight. This was the first naval battle of the War of 1812, and Congress gave Captain

Hull a gold medal for his services. He died Feb. 3, 1843.

Hull, William, an American military officer, born in Derby, Conn., June 24, 1753. He was governor of Michigan Territory 1805-1814. At the commencement of the War of 1812 he commanded the Northwestern army, and in 1812 surrendered with a force of 2,000 men to General Brock. In 1814 he was court-martialed and sentenced to be shot, but was pardoned in consideration for his services. He died Nov. 29, 1825.

Hull. See KINGSTON-ON-HULL.

Hull, island of the South Pacific Phoenix group, chosen for the survey of the sun's eclipse, January, 1908.

Hullah, John Pyke, an English musician; born in Worcester, England, June 27, 1812. He was for several years Professor of Vocal Music in King's College, and taught at other schools and colleges in the metropolis. Hullah, who followed a modification of Wilhelm's system, had little sympathy with recent developments of modern music, and opposed the "Tonic Sol-fa" method. He died in London, England, Feb. 21, 1884.

Humanitarians, a name assigned to Anti-Trinitarians, who regard Christ as a mere man, and refuse to ascribe to Him any supernatural character of origin or of nature.

Humanities, a term for humane or polite literature, including the study of the ancient classics, in opposition to philosophy and science.

Humbert I., Italian **Umberto**, King of Italy; born in Turin, March 14, 1844. He was the eldest son of Victor Emmanuel. In the war of 1866, in which Italy joined Prussia against Austria, he took the field in command of a division, and distinguished himself by his bravery in the disastrous battle of Custoza. In 1868 he married his cousin, Margherita, daughter of Duke Ferdinand of Genoa. He succeeded his father Jan. 9, 1878, and was assassinated in Monza, near Milan, July 29, 1900.

Humboldt, Alexander von, a distinguished German scientist; born in Berlin, Sept. 14, 1769. From childhood he delighted in zoological, physical, and geographical investigations. At 28, on the death of his mother, he began the series of voyages memo-

rable in the annals of science. "Voyages to the Equinoctial Regions of the New Continent"; "View of the Cordilleras and of the Monuments of the Indigenous Races of America"; "Observations on Zoölogy and Comparative Anatomy"; etc., attest alike his Titanic genius and the singular charm of his literary style. He died in Berlin, May 6, 1859.

Humboldt, Wilhelm von, a German philologist, brother of Alexander; born in Potsdam, June 22, 1767. In 1789 he visited Paris to study the French Revolution, with which he sympathized; from 1802 to 1819 he was in active official life; minister to Vienna, member of the Privy Council, Secretary of State, ambassador to London, etc.; finally quitting it in disgust at the corruption he would not share. His main work in philology is "On the Kawi Language of the Javaneses," but he made other valuable studies of primitive dialects. He died in Tegel, near Berlin, April 8, 1835.

Hume, David, a Scotch historian and philosopher; born in Edinburgh, Scotland, April 26 (o. s.), 1711. In 1746 he became secretary to General St. Clair, whom he accompanied to the courts of Vienna and Turin. In 1752 appeared at Edinburgh his "Inquiry Concerning the Principles of Morals," which of all his writings is considered the best. In 1754 he published the first volume of his "History of England," which he did not complete till 1761. The work acquired considerable celebrity, and the author gained largely by its popularity, for besides the profits it brought him, he obtained a pension through Lord Bute. He became under-secretary of State in 1767. He died in Edinburgh, Scotland, Aug. 25, 1776.

Humerus, in human anatomy, the long bone of the arm between the shoulder and fore-arm.

Humming Bird, one of a family of birds which may be termed the gems of animated nature; peculiar to America, and almost exclusively tropical. They are distinguished by their long and slender bill, and attenuated and retractile tongue, which is divided into two filaments from the middle to the tip, and sometimes set with re-curved spines. They feed on honey, though they are also insectivorous. Their

flight is extremely rapid, and while feeding they remain poised in the air by means of the horizontal motion of their wings, which produces a humming noise, whence their common name is derived. Only one species is found in the N. E. part of the United States, belonging to those having straight bills.

The humming bird is very irascible, two males scarcely ever meeting without a contest ensuing. They will also attack birds of a much larger size, as wrens or king birds, and sometimes have contests for a favorite flower with the bumblebee. From the beauty of these birds many attempts have been made to domesticate them, but unsuccessfully, though they have been kept from three to four months with attention.

Humphreys, Alexander Crombie, an American engineer; born in Edinburgh, Scotland, in 1851; entered business in New York in 1867; graduated at Stevens Institute of Technology in 1881; became chief engineer of the Pintsch Gas Company; later general superintendent of the United Gas Improvement Company; and in 1895 founded the firm of Humphreys and Glasgow, gas engineers, whose business extended all over the world. In 1902 he was elected president of Stevens Institute of Technology.

Hundred, a division of a county now obsolete in the United States, supposed to be named from originally containing 100 families or freemen.

Hundred Days, the period between Mar. 20 and June 29, 1815, during which Napoleon I. entered Paris and left it finally, after escaping from Elba.

Hundred-weight. In the United States 100 pounds avoirdupois, usually written cwt.

Hungary, an inland republic of Central Europe. Area est., 35,911 sq. m. Population (1926 Est.) 8,454,500. After the World War a republic was declared, King Charles abdicating Nov. 13, 1918. A national government was established Aug. 7, 1919, and a regent elected on March 1, 1920. On March 23, 1920, a government order declared Hungary a monarchy. However two attempts of King Charles in 1921 to regain the throne failed. Hungary remains a republic. For history previous to 1918, see Austria-Hungary.

Hungerford, Mrs. Margaret (Hamilton Argles) ("The Duchess"), an Irish novelist; born 1855. The daughter of an Anglican clergyman, she was left a widow with a young family to support, whereupon she took to literature. She is author of a large number of works of fiction. She died in Bandon, Cork co., Jan. 24, 1897.

Hunkers, (stay-at-homes), a name of Dutch origin, applied in 1843 to the conservative portion of the Democratic Party in the United States, who were opposed to the actions of the "Barnburners," the radical faction of the party. The differences existed until 1852 when the factions again acted in comparative harmony in state and national politics. The name was also applied to the Conservative Democrats in other states.

Huns, the name given to several nomadic Scythian tribes, which devastated the Roman empire in the 5th century. They inhabited the plains of Tartary, near the boundaries of China, many centuries before the Christian era; and they were known to the Chinese by the name of Hion-gun, and also Han. It was in order to put a stop to the continual aggressions of the Huns that the great wall of China was built; and after this the Huns split up into two separate nations, named respectively the Northern and the Southern Huns. The first-mentioned of these gradually went W. to the Volga, where they encountered the Alanni, whom they defeated. Here the Huns remained for about two centuries; but, under the Emperor Valens, they crossed the Bosphorus; afterward invading Rome, under their leader Attila. After the death of Attila the Huns broke up into separate tribes, and were driven back by the Goths beyond the Tanais. The Hungarians of the present day are the descendants of Huns, who once more immigrated into Europe.

Hunt, Freeman, an American biographer; born in Quincy, Mass., March 21, 1804. A publisher in New York, he was the founder of "Hunt's Merchants' Magazine." He died in Brooklyn, N. Y., March 2, 1858.

Hunt, James Henry Leigh, an English poet and essayist; born in Southgate, Middlesex, England, Oct.

19, 1784. He was the personal friend of Byron, Shelley, Hazlitt, Lamb, and Coleridge. He was sentenced, with his brother, to a fine of \$2,500 and two years' imprisonment for an alleged libel against the prince regent. Offers to remit these penalties on a promise to refrain from similar expressions for the future were firmly rejected; and on the expiration of their sentence they continued to write as before in the "Examiner." The "Story of Rimini" is his longest and perhaps his best known poem. He died in Putney, England, Aug. 28, 1859.

Hunt, Richard Morris, an American architect; born in Brattleboro, Vt., Oct. 31, 1828; finished the study of his profession in Paris; returned to the United States and was employed in the extension of the National Capitol. Among the structures designed by him are the Presbyterian Hospital, Lenox Library, the William K. Vanderbilt mansion, the "Tribune" Building, etc., in New York city; the Yorktown Monument, Va.; the pedestal of the "Statue of Liberty," on Bedloe's Island, New York harbor; etc. He died in Newport, R. I., July 31, 1895.

Hunt, Thomas Sterry, an American chemist and geologist; born in Norwich, Conn., Sept. 5, 1826. He was (1872-1878) Professor of Geology in the Massachusetts Institute of Technology. In organic chemistry his name is identified with a system essentially his own, and his researches into the composition of rocks were of great importance. In 1859 he invented the green ink with which greenbacks are printed. He was made an officer of the Legion of Honor in 1867, and received numerous other distinctions, including a fellowship of the Royal Society (1859), and the degree of LL. D. from Cambridge (1881). He published over 200 papers and several larger works on chemistry and mineralogy. He died in New York city, Feb. 12, 1892.

Hunt, Ward, an American jurist; born in Utica, N. Y., June 14, 1810; was educated at Hamilton and Union Colleges, graduating in 1828. From 1865 to 1873 he was judge of the Court of Appeals of the State of New York, when he was appointed a justice of the Supreme Court of the

United States. Retired Jan. 27, 1882, and died March 24, 1886.

Hunt, William Chamberlin, an American statistician; born in Charlestown, Mass., Dec. 20, 1856. He was statistical expert in the United States Department of Labor in 1895-1899; and became chief statistician of the department of population of the 12th United States Census in 1899.

Hunt, William Henry, an American jurist; born in New Orleans, La., Nov. 5, 1857; became attorney-general of Montana in 1885; district judge in 1899; judge of Supreme Court in 1894; secretary of Porto Rico in 1900, and governor in 1901; United States district judge in Montana in 1904; and associate justice of the newly-created United States Court of Commerce in 1911.

Hunt, William Holman, English pre-Raphaelite artist; born in 1827 in London. Among his pictures are the "Light of the World"; "Christ discovered in the Temple"; and "The Shadow of Death." He died in 1910.

Hunt, William Morris, American artist; born in Vermont, 1824; died in 1879. Some of his work decorates the Capitol at Albany.

Hunter, David, an American military officer; born in Washington, D. C., July 21, 1802; was chairman of the commission which tried the conspirators against President Lincoln; brevetted Major-General, U. S. A. 1865; died Feb. 2, 1886.

Hunter-Duvar, John, a Canadian poet; of Scotch-English birth and education; born Aug. 29, 1830. He served as lieutenant-colonel of the 3d Brigade Halifax Garrison Artillery and of Prince Co. (P. E. I.) Battery of active militia; was Dominion Inspector of Fisheries for the Province of P. E. I., 1879-1889.

Huntington, city and capital of Cabell county, W. Va.; on the Ohio river and the Baltimore & Ohio and other railroads; 18 miles S. E. of Ironton, O.; is the seat of Marshall College, State Normal School, and State Home for Incurables; ships large quantities of lumber, coal, iron, and salt; and has railroad car shops and manufactures of freight cars, car wheels, plate glass, and lumber. Pop. (1930) 75,572.

Huntington, Daniel, an American painter; born in New York city, Oct. 14, 1816. He studied at Hamilton College. In 1862-1869 he was president of the National Academy, and again in 1877-1891. Among his portraits are those of Presidents Lincoln and Grant, and Senator John Sherman. He died April, 1906.

Huntington, Frederic Dan, an American clergyman; born in Hadley, Mass., May 28, 1819. In 1855 he became Plummer Professor of Christian Morals in Harvard University. In 1860 he was ordained in the Protestant Episcopal Church, and in 1869 was consecrated Bishop of Central New York. He died July 11, 1904.

Huntington, Samuel, an American patriot; born in Windham, Conn., July 3, 1731. In 1774 he became assistant judge of the Superior Court, and in the following year was elected to Congress. In 1784 he was appointed chief-justice, and in 1786 governor, to which office he was annually elected till his death, Jan. 5, 1796. He was one of the signers of the Declaration of Independence.

Hunyady, Janos, a great Hungarian soldier; born in Hunyad, Transylvania, in 1387. His life may be succinctly described as one unbroken crusade against the Turks. The principal moments in his celebrated contest with the foes of Christendom are his expulsion of them from Transylvania in 1442; his brilliant campaign S. of the Danube in 1443; his defeat in the bloody battle of Varna, 1444; and that of Kossovo in 1448; but his most glorious achievement was the storming of Belgrade (1456). During the minority of Ladislaus V. he acted as governor of the kingdom (1445-1453). Hunyady left two sons, Ladislaus and Matthias—the latter of whom succeeded to the crown of Hungary. He died in Semlin, Croatia-Slavonia, Aug. 11, 1456.

Hurdygurdy, a musical instrument of ancient origin, popular among most of the European nations. It consists of a flat oblong sounding-board, on which are stretched four to six strings of catgut or sometimes wire. The strings are set in vibration by the friction of a wooden wheel charged with resin and turned by means of a handle at one end. The hurdygurdy

is only adapted to the production of melodies of the simplest kind.

Hurlburt, William Henry, an American journalist; born in Charleston, S. C., July 3, 1827. After an extensive journalistic experience in New York, he became editor-in-chief of the New York "World" (1876-1883). After 1883 he resided in Europe. He died in Italy, Sept. 4, 1895.

Hurlbut, Stephen Augustus, an American military officer and politician; born in Charleston, S. C., Nov. 29, 1815; at beginning of the Civil War he became a Brigadier-General of volunteers, in 1862; commanded a corps in the expedition to Meridian in 1864; was United States minister to the United States of Colombia, 1869-1873; Republican member of Congress from Illinois, 1873-1877; United States minister to Peru, 1881-1882; and died in Lima, Peru, March 27, 1882.

Huron, Lake, one of the five great lakes of North America, belonging to the basin of the St. Lawrence, second in size only to Lake Superior, and intermediate in position between that lake and Michigan. The total length of Lake Huron N. to S. is estimated at 280 miles, and its greatest breadth about 190 miles; area estimated, 25,000 square miles. The banks of this lake are mostly low, especially along its S. and W. sides. Few towns of consequence exist on its shores, and its navigation is rendered dangerous by sudden and violent tempests.

Huronian Rocks, the name given by Sir William Logan to a series of strata lying in the vicinity of Lake Huron.

Hurons, a once powerful tribe of American Indians, belonging to the Huron-Iroquois family. In the early part of the 17th century the Hurons numbered about 30,000 persons, living in 25 villages within a small territory near Georgian Bay. By the end of the century the tribe had been nearly destroyed by the Iroquois, famine, and disease; and in 1693 the few survivors were removed by the French to Jeune Lorette, near Quebec. Here 200 or 300 descendants still live; but very few are of pure blood, and all are Catholics, and have abandoned their own language for French.

Hurst, John Fletcher, an American Methodist clergyman and author; born near Salem, Md., Aug. 17, 1834. He studied theology in Halle and Heidelberg, Germany, and became bishop in the Methodist Episcopal Church in 1880, and chancellor of the American University in 1891. He wrote many books on religious subjects, translations of theological works and histories, etc. Died May 4, 1903.

Hurter, Friedrich Emanuel von, a Swiss theologian and historian; born in Schaffhausen, March 19, 1787. In 1846 he was selected as historiographer to the Emperor of Austria. His numerous works relate chiefly to mediæval and Church history. He died in Gratz, Styria, Aug. 27, 1865.

Husbandry, Patrons of, a combination, society, or association of farmers for the promotion of the interests of agriculture, by abolishing the restraints and burdens imposed on it by railway and other companies, and by getting rid of the systems of middlemen or agents between the producer and the consumer. The popular name of its members is Grangers. The organization seems to have declined in the last few years.

Huskisson, William, an English statesman; born in Birch, Moreton, Worcestershire, England, March 11, 1770. In 1827 he became secretary of state for the colonies, under Lord Goderich. He had now come to be a recognized authority on all questions of trade and commerce. In 1828 a misunderstanding with the Duke of Wellington, then at the head of the cabinet, led to his withdrawing, with other Tories, from the administration. He was accidentally killed at the opening of the Liverpool and Manchester Railway, Sept. 15, 1830.

Huso, the beluga or isinglass sturgeon. It inhabits the great rivers falling into the Black and Caspian Seas. The best isinglass is made from its air-bladder.

Huss, John, a famous Bohemian reformer of religion; born of humble parents in Husinetz, near Prachatitz, Bohemia, July 6, 1369. He became a priest in 1400. Huss was a realist in philosophy, and adopted the views of Wyclif, whose works he translated and whose doctrines he preached, giving great offense to the Archbishop of

Prague. He was adjudged a heretic and burned alive July 6, 1415.

Huszt, a Hungarian town, at the junction of the Theiss and Nagy Ag rivers, 32 miles N. W. of Maramaros Sziget, 37 miles N. W. of the Galician border. It is in one of the most hilly districts of Hungary, and its inhabitants are chiefly engaged in sheep-raising, salt mining, and lumbering. Pop. about 8,000.

Hutchins, Harry Burns, American educator; born in Lisbon, N. H., April 8, 1847; Professor of History and Rhetoric, University of Michigan, 1872-76, Law, 1884-87; Law, Cornell, 1887-94; at Michigan, 1895-1910; elected president, June 28, 1910, and president emeritus since 1920.

Hutchins, Thomas, a geographer-general to the United States; born in New Jersey, about 1730. Died in 1789.

Hutchinson Anne, an American religious enthusiast; born in Lincolnshire, England, about 1590. She married a Mr. Hutchinson, and in 1634 they emigrated to Boston, Mass. She held various theological heresies, conducted meetings, lectured, and denounced the Massachusetts clergy. Being tried for heresy and sedition, she was banished from the colony. She and her friends removed to Rhode Island, where they acquired territory from the Narragansett Indians. After the death of her husband (who shared her opinions) she removed to a new settlement in New York State, where in 1643, she and her whole family of 15 persons were taken prisoners by the Indians, and all but one daughter barbarously murdered.

Hutchinson, Ellen Mackay (Mrs. Royal Cortissoz), an American journalist; born in New York; was long one of the editors of the New York "Tribune," and was associated with E. C. Stedman in the compilation of the "Library of American Literature." Her numerous poems were collected under the title of "Songs and Lyrics" (1881).

Hutchinson, Thomas, an American colonial governor; born in Boston, Mass., Sept. 9, 1711; was graduated at Harvard College in 1727, and early attained prominence in the colonial affairs of Massachusetts. In 1770 he was appointed governor, but became unpopular during the conflict with

Great Britain over the right to tax the colonies. In 1774 he was superseded by General Gage. He died in Brompton, England, June 3, 1780. He was a man of marked ability, and could perhaps have averted the Revolution by a course more in accord with American sentiment. He was treated coldly as a refugee in England, and expressed with touching pathos his longing for his native land. Like many other Tories, he had reason to regret his choice.

Hutten, Ulrich von, a German controversial satirist; born in Steckelburg, near Fida, Prussia, April 21, 1488. Of a noble family and destined for the Church, he preferred a life of roving adventure. After many vicissitudes, including shipwreck, military service, and absolute beggary, he rose to fame by brilliant contributions to the current religious and political controversies. He died in the island of Ufenau, Lake Zurich, 1523.

Hutton, Charles, an English mathematician; born in Newcastle-upon-Tyne. He was selected to perform the necessary calculations for determining the density of the earth, and his report was published in the "Philosophical Transactions" for 1778. He died Jan. 27, 1823.

Hutton, James, a Scotch geologist and natural philosopher; born in Edinburgh, Scotland, June 3, 1726. He died in Edinburgh, Scotland, 1797.

Hutton, Laurence, an American editor; born in New York, Aug. 8, 1843. Devoting his earlier years to mercantile pursuits, he at length became dramatic critic of the New York "Evening Mail"; literary editor of "Harper's Magazine" (1886-1898). He made a remarkable collection of death masks of celebrities, now in Princeton Univ. He died June 10, 1904.

Huttonian Theory, in geology, the theory first published by Dr. James Hutton, in 1788, in his "Theory of the Earth," and developed in 1795. He was the first to distinguish between cosmogony and geology, believing the latter to be in no way concerned with "questions as to the origin of things." His view was that the upraised land of the globe must be worn away by atmospheric influences and the debris be finally deposited in the bed of the sea, where it is consolidated under

Huxley

great pressure; it is then forced upward by subterranean heat, acting with an expansive power, and thereby split and cracked, the fissures at the same time filling with molten mineral matter; and so the process goes on. Hutton was the precursor of Sir Charles Lyell, whose views were essentially the same, and who procured for them large acceptance among geologists. Professor Huxley called the Huttonian theory Uniformitarianism.

Huxley, Thomas Henry, an English biologist and essayist; born in Ealing, England, May 4, 1825. He was graduated at London University in 1845. In 1846-1850 he sailed around the world as a naval surgeon. In 1851 he was made F. R. S. by the Royal Society; he became Professor of Natural History in the School of Mines in 1854; Hunterian Professor in the Royal College of Surgeons in 1863; president of the British Geological and Ethnological Societies in 1869; secretary of the Royal Society in 1872; Lord Rector of Aberdeen University in 1872; and president of the Royal Society in 1883. He was an able advocate of Darwinian evolution, and was perhaps best known to the popular apprehension by his agnostic speculations, in expounding which he came into controversy with the defenders of Theism and Christianity. He wrote a number of scientific works. He died in Eastbourne, England, June 29, 1895.

Huygens, Christian, an eminent Dutch mathematician and astronomer; born in The Hague, April 14, 1629. In pure geometry, Huygens gave the reasons for the quadrature of the hyperbola, the ellipsis, and the circle; in mechanics, he laid down the theory of the pendulum, and its application to the clock; he discerned the synchronism of the cycloid, invented the theory of involutes and evolutes of curves, and explored the doctrine of centers of oscillation; most important of all, he announced the law of the motion of bodies revolving in circles, thereby "grazing" the law of gravitation. In astronomy, we owe to him an improvement of the telescope and the memorable discovery of Saturn's ring. In optics he originated the theory of undulations. He died June 8, 1695.

Hwang-ko. See HOANG-HO.

Hyatt

Hyacinth, in botany, a genus of flowers once so extensive as to include the common wild hyacinth (hyacinth of the woods) or blue-bell, but now much more limited.

Hyacinthe, Pere, the former monastic name of CHARLES LOYSON, a French clergyman; born in Orleans, March 10, 1827. Almost as remarkable as his eloquence, was the boldness with which he denounced existing abuses in the Church. In 1869 he issued a letter in which he called for a thorough reform of the Church, and was excommunicated. Relieved from monastic vows by the Pope, he became a secular priest under the name of the Abbe Loyson. He protested vigorously against the infallibility dogma; but though he attended the "Old Catholic" Congress at Munich, and on visits to the United States and England fraternized with Protestants, he always declared his intention to remain in the Catholic Church, trying to obtain reforms, such as the liberty of marriage for the clergy. In 1872 he married an American lady. In 1873 he was chosen cure of a congregation of Liberal Catholics at Geneva, but soon left them. In 1879 he established a "Gallican" congregation in Paris, which in 1884 attached itself to the Old Catholic Church in Holland. He died Feb. 9, 1912.

Hyatt, Alpheus, an American scientist; born in Washington, D. C., April 5, 1838. He was graduated at Lawrence Scientific School, served with distinction in the Civil War, held professorships in leading scientific institutions, and was made curator of the Boston Society of Natural History and assistant in the Museum of Comparative Anatomy in Cambridge, Mass. He died in 1902.

Hyatt, John Wesley, an American inventor; born in Starkey, N. Y., Nov. 28, 1837; was educated in the common schools; became a printer and then an inventor. His chief inventions were the making of celluloid, which has developed an enormous industry, a solvent for pyroxylin, and a water-purifying system.

Hyatt, Nathaniel Irving, an American musical composer; born in Lansingburg, N. Y., April 23, 1865, and was graduated at the Leipsic Con-

Hybrid

servatory. He was professor of Piano and Theory at the Syracuse University in 1896-1900; and became head of the music department of St. Agnes School, Albany, N. Y., in 1900. He composed numerous songs, choruses, piano music, etc.

Hybrid, a mongrel produced, whether in plants or animals, by the impregnation of the female of one species, genus, or race, by the male belonging to a different family. The commonest sorts of hybrid are those which arise from the interconnection of different varieties of the same species.

Hyde, or Hide, a measure of land, frequently mentioned in Domesday-book and in old English charters, and variously estimated as equivalent to 60, 80, and 100 acres. I was such a portion of land as might be plowed with one plow. The hyde at present is reckoned at 100 acres.

Hyde, Arthur M., American lawyer, born in Trenton, Mo., July 12, 1877. Mayor of Princeton, Mo., 1908-09; governor of Missouri, 1921-25; Secretary of Agriculture, 1929-

Hyde Park, a park in the West End of London, adjoining Kensington Gardens. It derived its name from having been the manor of the Hyde belonging to the Abbey of Westminster, and contains nearly 400 acres.

Hyderabad, India. See HAIDARABAD.

Hydra, in classical mythology, a monster which infested the Lake Lerna in Peloponnesus. It had 100 heads, and as soon as one was cut off, two grew up if the wound was not stopped by fire. It was one of the labors of Hercules to destroy this monster; this he effected with the assistance of Iolaus, who applied a red-hot iron to the wound as soon as one head was cut off. The conqueror dipped his arrows in the gall of the hydra, and all the wounds which he gave proved incurable.

In astronomy, the hydra or water-snake, one of the 15 ancient Southern constellations.

Hydrangea, a genus of shrubs or herbs containing about 32 species, natives of America and Asia. The garden hydrangea is a native of China. It is a favorite because of its fragrance and large flowers.

Hydraulic Mining

Hydrarthrus, a white swelling. The joints subject to this disease are the knee, ankle, elbow, and wrist. At first the swelling is slight, of the same color as the skin, but very painful, diminishing the mobility of the part affected. It can be distinguished from rheumatic swelling of the joints by its fixed and wearing pain, which often exists for a long time before any enlargement of the part is perceptible.

Hydraulic Crane. A crane the motive power of which is water under pressure.

Hydraulic Engines, engines of which the motive power is water under pressure. In principle they do not differ essentially from steam engines.

Hydraulic Lift, or Elevator, an apparatus on the principle of the hydraulic press, caused by means of a lever to draw up a chain which passes over sets of pulleys, and is thence conducted by leading pulleys over a jib. The weight is by this arrangement raised many times the stroke of the ram.



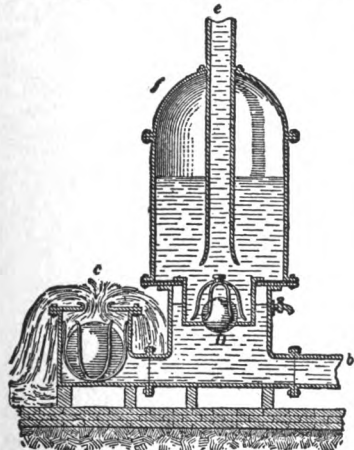
HYDRANGEA.

Hydraulic Mining, a system of mining in which the force of a jet of water is used to sluice down a bed of auriferous gravel or earth, which is passed through sluices to detain the particles of gold.

Hydraulics

Hydraulics, the department of mechanical science which deals especially with the flow of liquids in pipes and channels.

Hydraulic Ram, a machine for raising water, and depending for its action on the impulse of flowing water. The water falling from a reservoir passes into a pipe or chamber (*b*), at the end of which there is a ball valve



HYDRAULIC RAM.

(*c*). The rush of supply water at first closes this, and the water finding no exit there acquires pressure enough to open another valve (*d*) and pass into an air-vessel placed over it (*f*). The cessation of pressure at valve *c* allows it to fall again; an outrush of water takes place there, relieving valve *d*, which again closes. The pressure of the flowing water upon valve *c* once more closes this valve, and valve *d* again opens, and an additional quantity of water is forced into the air-vessel; and so on by a series of pulsations which send the water along the service pipe, and, in properly arranged machines, raise it to a very considerable height, although the impulse is derived only from the fall of a few feet.

Hydrocarbon, a name given to compounds of one or more atoms of carbon with atoms of hydrogen, such as methane, acetylene, etc.

Hydrometer

Hydrocephalus, a form of dropsy in the ventricles of the brain, or in the arachnoid cavity, in children, and usually rapidly fatal, though cases have been known to go on to adult life.

Hydrochloric Acid, a gaseous compound of equal volumes of hydrogen and chlorine, the aqueous solution of which, known also as muriatic acid, is used commercially. Hydrochloric acid is colorless, has a pungent odor, and an acid taste. It colors moist litmus paper red. It is quite irrespirable, extinguishes flame, and dissolves readily in water.

Hydrocyanic Acid, cyanide of hydrogen, commonly known as prussic acid.

Hydrodynamics, a department of science which treats of the nature of liquids in motion, as opposed to hydrostatics (*q. v.*), which investigates the condition of their equilibrium when at rest.

Hydrogen, a monatomic metallic element, which exists in the state of gas. Hydrogen has been found occluded in meteoric iron, and is contained in the gases given off by volcanoes. The spectroscope shows that a large quantity of free hydrogen exists around the sun. Pure hydrogen is a colorless, inodorous, tasteless gas; it is inflammable mixed with oxygen; it explodes in contact with a flame, or when the electric spark is passed through it, forming water. Hydrogen gas cannot support life, but it is not poisonous; it is slightly soluble in water. Hydrogen in small quantities was reduced to a liquid by the French chemists, Cailletet and Pictet, in 1877-1878; and in May, 1898, Prof. James Dewar, of the Royal Institution, London, succeeded in liquefying it in quantity by means of extreme coldness produced by liquid air.

Hydrography, a branch of science which deals with the measurement and description of the seas, lakes, rivers, and other waters, as used for purposes of commerce or navigation; the art of marine surveying and of the construction of charts.

Hydrometer, an instrument for determining the specific gravity of fluids.

Hydropathy, (Greek, *hydor*, water, and *pathos*, affection or disease), a method of treating diseases by the application of cold water, which has come extensively into practice, though scarcely as yet recognized as a curative system by the medical profession. It was originated by Vincent Priessnitz, a Silesian peasant, who, when a boy of 13 cured a sprained wrist by a bandage kept continuously wet, and instituting a series of observations in regard to various sprains, etc., cured by the application of wet bandages, was led to form a pathological theory, according to which disease is caused by an accumulation of morbid matter, which must be eliminated from the system by cold water applications and the observance of a strict regimen.

In rapid succession he invented the sponge bath, the wet sheet packing, the sitz, the foot, and arm baths, the douche, the stream bath, the dripping sheet, the plunge, the dry blanket packing, and other appliances of the hydropathic system. In 1829 he established, in his native village of Gräfenberg, a range of baths, which speedily grew in reputation, and attracted visitors from all parts of Europe. The Austrian government lent him its patronage, and all the opposition of the medical faculty was unable to stem the popularity of the new system. The original establishment at Gräfenberg soon expanded into an extensive suite of buildings, stretching along the slope of one of the Sudetic mountains, and resorted to by troops of invalids, who sought to regain health by bathing, exercise, simple diet, and agreeable society. Other hydropathic institutions soon sprang up in other parts of Germany and were at length introduced into England, a hydropathic society having been formed in London in 1842.

Before Priessnitz's death in 1851 he had the satisfaction of seeing his system adopted extensively both throughout the United States and Europe. The treatment used is similar to that of Priessnitz.

Hydrophobia, rabies, from bite of mad dog, more rarely cat, wolf, or fox; a contagious disease, the result of a specific poison. The great danger lies in the fact that a person bitten by a supposed mad dog imagines or sim-

ulates its symptoms, especially if nervous or hysterical; whereas only a few of those bitten by a mad dog take the disease. The average period of incubation is 40 days, but it varies from 15 days to two years.

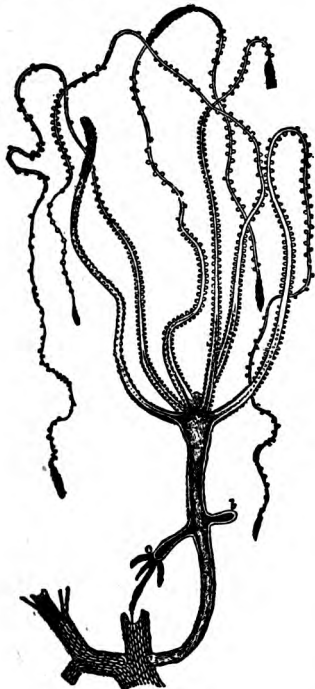
Hydroscope, an instrument for measuring the moisture of the air or other gas.

Hydrostatics, the part of the general science of hydrodynamics that treats of the application of forces to fluids at rest. It is generally divided into two parts, one, hydrostatics proper, which deals with incompressible fluids, such as water, with liquids in fact; and the other, which deals with compressible fluids, that is, with gases. The latter part of the subject is commonly called pneumatics.

Hydrozoön, a name given to the great class of the sub-kingdom Cœlenterata, of which hydra is the type. They exhibit a definite histological structure, their tissues having a cellular organization. These tissues are two, an outer or ectoderm, and an inner or endoderm. In most the prey is seized by tentacles surrounding the mouth and furnished with offensive weapons called thread cells. The hydrozoa are all aquatic, and nearly all marine. Their distribution is worldwide.

Hyena, or **Hyæna**, a genus of digitigrade carnivorous quadrupeds. Hyenas have six incisors and two canine teeth in each jaw, five molars on each side in the upper jaw, and four in the under. The hind-quarters are lower and weaker than the fore-quarters of the body, so that hyenas move with a shambling gait. The body is covered with rather long, coarse hair, forming a mane along the neck and back. The feet have each four toes. The claws are strong, fit for digging, and not retractile. The tail is rather short. Beneath the anus is a deep glandular pouch, contributing much to the offensive odor by which hyenas are characterized. They sometimes attack cattle, especially if they flee, but rarely man, though they sometimes seize children. During the day they hide themselves in caves, old rock-tombs, ruined edifices, etc.; by night they roam singly or in packs in quest of prey. Instead of being untamable, as was long the popular belief, they

are capable of being completely tamed, and show an attachment to man similar to that of the dog; they have even been used as watch dogs. Hyenas are found only in Africa and the S. of Asia, not extending to the farthest E. of the latter continent.



HYDROZOOON.

Hydra fusca, with a young bud at b, and a more advanced bud at c.

Hygeia, or **Hygieia**, the Greek goddess of health, daughter or wife of Æsculapius. Her statues (of which the most celebrated was at Sicyon) sometimes represented her with a large serpent coiled round her body, and elevating its head above her arm to drink of a cup which she held in her hand. Isis, in Egyptian monuments, appears sometimes in a similar attitude.

Hygiene, the study of the prevention of disease, the art of preserving health, and securing what Juvenal considered the best gift of the gods, *mens sana in corpore sano* ("a sound mind in a sound body"), through wise sanitary precautions, and attention to diet, regimen, etc. In this way growth will be increasingly perfected, life more vigorous, decay less rapid, and death more remote.

Hygrometer, an instrument for measuring the comparative moisture of the air.

Hygrometric Balance, an instrument for indicating the relative density of the air, and consequent changes of rain or dry weather.

Hygroscope, a name sometimes given to an instrument for indicating the presence of moisture in the atmosphere, without measuring its amount. Hygroscopic substances are those which imbibe moisture and become coated with a moist film.

Hylæosaurus, a gigantic fossil lizard. Its probable length was about 25 feet. It is one of the group which presents a structure intermediate between that of existing birds and reptiles.

Hymen, the Greek god of marriage. The people of Athens instituted festivals in his honor, and solemnly invoked him at their nuptials, as the Latins did their *Thalassius*. Hymen was represented as crowned with flowers, holding a burning torch in one hand, and in the other a wreath. It was supposed that he always attended at nuptials; for, otherwise, matrimonial connections were fatal, and ended in dreadful calamities; hence people ran about on these occasions, calling aloud "Hymen!" "Hymen!"

Hymenoptera, an order of insects, comprising bees, wasps, ants, etc., containing about 25,000 species, and now usually acknowledged to stand at the head of the class of insects. They have the mouth furnished with mandibles for cutting and tearing, but the other parts of the mouth are adapted for lapping and suction, and are generally narrow and elongated, often united into a kind of proboscis, as in bees. The antennæ are generally slender, but often exhibit differences in the sexes of the same species. The

wings are four in number, the first pair larger than the second, the wings of the same side united in flight by little hooks. The wings, when at rest, are laid one over another horizontally over the body. Their metamorphosis is complete, the larvæ either, as in ants, wasps, bees, etc., being legless, or, as in the sawflies, with legs somewhat as in caterpillars.

Hymettus, a mountain in Attica, Greece, now called Trelo Vouni, to the S. E. of Athens; was famous among the ancients for its honey and its bluish marble. The honey is still in repute.

Hymn, a sacred composition in poetry intended to be sung with or without the aid of a musical instrument, and not being versified from the book of Psalms, else it is called a Psalm, or directly from any other part of Scripture, or else it is a paraphrase. Hilary, Bishop of Arles, is said to have composed the first hymn for Christian worship about A. D. 431, but as early as the time of Pliny the Younger the Christians are said to have habitually sung one to Christ as God. Luther did much to popularize hymnody in the infant Protestant Church in Germany. Of the hymns now in use many were composed by Isaac Watts, Charles Wesley, John Wesley, Cowper and others. Prominent among Americans who have written hymns are Oliver Wendell Holmes, Phœbe Cary, P. P. Bliss, Ira D. Sankey, Julia Ward Howe, who wrote "The Battle Hymn of the Republic," Samuel Francis Smith, author of the national hymn "America," Timothy Dwight, Ray Palmer, who wrote "My Faith Looks up to Thee," Joseph Henry Gilmore, etc.

Hymnology, the science of hymnal composition; also a collection of hymns used by any Church or body.

Hyoid Bone, or **Hyoid Arch**, in anatomy, the second arch developed from the cranium, giving support to the tongue and attachment to numerous muscles of the neck.

Hypatia, an Alexandrian teacher and heroine; born in Alexandria between 370-380. She was the daughter of Theon, an eminent mathematician of Alexandria, whom she succeeded in the government of that school, had a

number of disciples, and became very celebrated for her lectures on Plato and Aristotle, both at Alexandria and Athens. Orestes, the governor of Alexandria, had a high respect for Hypatia and frequently consulted her on matters of importance. Between the governor and the patriarch Cyril there was bitter enmity, which broke out into open war, and the monks siding with their chief, assembled in a riotous manner against Orestes, who was obliged to fly from the city. They then seized Hypatia, and having torn her to pieces, burnt her mangled limbs to ashes, 415 A. D.

Hyperbola, in mathematics, one of the three conic sections. It is a plane curve of such a form that if from any point in it two straight lines be drawn to two given fixed points, the excess of the straight line drawn to one of the points above the other will always be equal. The two points are called the foci.

Hyperboreans, according to early Greek legend, dwellers beyond Boreas or the North Wind, a name given by the ancients to a mythical people, whose land was generally supposed to lie in the extreme N. parts of the world.

Hyperdulia, or **Hyperduly**, in Roman Catholic theology, a special homage rendered to the Virgin; a subdivision of dulia.

Hypericaceæ, or **Hypericineæ**, a natural order of about 300 known species, trees, shrubs, and herbaceous plants, widely distributed over the world, and in very different climates, but particularly numerous in North America.

Hyperion, a name for Apollo, a model of manly beauty.

Hyperion, in astronomy, the name given to the 7th satellite of Saturn, discovered in 1848, at the Harvard Observatory, by G. P. Bond.

Hypnotism, that which formerly was, and popularly, still is called "mesmerism," or, more exactly, "animal magnetism," (q. v.) founded on a belief in a so-called "magnetic fluid" which is supposed to pass from operator to subject, has become recognized as hypnotism; and the power which the dormant condition of a hypnotized subject apparently lends to the opera-

tor is no longer thought by the school of Nancy to be the result, or the effect, of a magnetic fluid emanating from the hypnotizer, but is clearly seen to depend wholly upon the suggestibility of the subject, the school of Nancy being now the sole source of opinions concerning the meanings and uses of hypnotic suggestion, and Bernheim is its head. The actual foundation of modern hypnotic suggestion was discovered by Liebeault of Nancy, the famous "father of the therapeutic application of suggestion." After several years of practical experience in 1866, he wrote his first book on the subject. It was shelved and he was pronounced erratic. Hypnotism remained a curiosity and Liebeault's book was not reproduced till six years after Charcot, in 1878, began his studies in hypnotism. In 1884 Bernheim wrote his charming book on suggestion and this created a demand for Liebeault's book which then gave him his lasting reputation. He was Bernheim's teacher. Formerly a profound skeptic, Bernheim became unavoidably converted by seeing the results of Liebeault's application of suggestion to invalids. Bernheim was a clever clinical professor in the great hospital of Nancy, and in his wards he convinced himself of the great value of hypnotic suggestion.

The word hypnotism is generally and largely misunderstood and misused. For example, if a person seems to be wholly influenced by another it is commonly said that he has been hypnotized. This is a great error. The word hypnotism means putting a person to sleep and means nothing else. If an individual seems to be subjected to another in the waking state it should be said that he is unduly influenced. He is not hypnotized. That would mean that he was asleep.

The means by which hypnotism is used is "suggestion." A person may be influenced by suggestion in the waking state, for suggestion is a great force in daily life. As connected with hypnotism, however, suggestion is the expression of an idea or combination of ideas which becomes impressed upon the mind of the somnolent subject to whom it is addressed. Conscious or unconscious results are

sure to follow. This explanation sums up the meaning, use and results of suggestion as applied to hypnotism and the hypnotic state.

Hypocaust, a form of furnace used by the Romans for the purpose of heating baths and apartments. It was placed in a chamber beneath the floor, and the heated air and products of combustion were made to circulate round the walls and under the floor by means of hollow tubes or a hollow lining, and were also carried in pipes to other rooms.

Hypochondriasis, a disease characterized by extreme increase of sensibility, palpitations, morbid feelings that simulate the greater part of diseases, exaggerated uneasiness and anxiety, chiefly in what concerns the health. In extreme cases it becomes a species of melancholia. The disease is intimately connected with, if not caused by, disorder of the digestive functions.

Hypodermic Injection, a forcing of some substance beneath the skin; a method adopted in medicine when the condition of the stomach or other organs renders the use of drugs by the mouth objectionable, or when rapidity of action is desired. The medicine is introduced by a small glass syringe fitted with a long, hollow, needle-shaped point of steel.

Hypophosphites, salts of hypophosphorous acid, especially certain medicinal salts, chiefly the hypophosphites of potassium, sodium, and calcium. They are used in medicine.

Hypothecation, in civil law, an engagement by which the debtor assigns his goods in pledge to a creditor as a security for his debt, without parting with the immediate possession; differing, in the last particular, from the simple pledge. In commerce, the pawning of a ship for necessities, or to raise money in some critical emergency.

Hypothenuse, or **Hypotenuse**, the name given to that side of a right-angled triangle which subtends, or is opposite to, the right angle. Its property—that the square described on it is equal to the sum of the squares described on the other two sides—is demonstrated and generalized, so as to apply to any figure in Euclid. The

Hypothesis

discovery of this property is attributed to Pythagoras.

Hypothesis, etymologically a supposition, is popularly used to denote something not proved, but assumed for the sake of argument. In scientific and philosophical usage it denotes either a probable theory of phenomena not yet fully explained, or a strictly scientific theory which accounts for all the known facts of the case, and which only needs the verification of subsequent observations and deductions to become a certainty. Thus the conjecture of Newton that the force of gravity, as exemplified on the earth, might extend to the moon, was in its first stage a probable hypothesis; but when it was found to account for all the facts, it became a scientific hypothesis or theory.

Hypsometry, that department of geodesy which treats of the measurements of the altitudes or relative heights of various points on the earth's surface.

Hyrax, a genus of pachydermatous mammalia, intermediate in their character between the rhinoceros and the tapir. It is characterized by having



HYRAX.

no canine teeth, but long curved incisors. The front feet have four toes, and the hind feet three. The Cape hyrax is by the colonists of South Africa called rock badger and rock

Hysteria

rabbit, from the fact that they inhabit rocky places. They are also called damans.

Hyrcaus, Johannes, a high priest and prince of the Jews. He was son of Simon Maccabæus, on whose assassination he succeeded him as supreme ruler, 136 B. C. Jerusalem was soon after besieged by Antiochus Sidetes, King of Syria, with whom Hyrcanus was compelled to make a burdensome peace. In 131 he accompanied Antiochus in his expedition against the Parthians, and from a victory over the Hyrcanian tribe he acquired the surname Hyrcanus. Antiochus being killed during this war, Hyrcanus threw off the yoke of Syria, conquered Idumea, besieged and destroyed Samaria, and made an alliance with Rome. He died 106 B. C.

Hyrcaus II., eldest son of Alexander Jannæus; became sovereign pontiff 70 B. C., was dethroned by his brother Aristobulus, restored by the Romans in 63, and beheaded in 29 B. C.

Hyslop, James Hervey, an American psychologist; born in Xenia, O., Aug. 18, 1854; was Instructor and Professor of Philosophy, Ethics, Logic, and Psychology at Lake Forest University, Smith College, Bucknell University, and Columbia, in 1880-1902; organized and became Secretary, American Institute for Psychical Research, 1903; edited its "Proceedings," and conducted numerous psychical investigations.

Hysteria, a nervous disorder of females. The symptoms are innumerable, and the imitation of other diseases allied to it endless. In many cases, owing to a real defect of will and mental power, the symptoms are extremely distressing, and the bodily health very indifferent, with shrieking, laughing, sobbing, etc. The remedy for all this is undoubtedly mental and moral treatment, change of scene and associations, with general care of the bodily health, particularly as regards diet and the digestive organs, and strict avoidance of alcoholic stimulants.

I

I, the ninth letter in the English alphabet, and the third vowel. The English language is the only one which denotes, by this same character, the two totally different sounds of *i* as in pine and *i* as in pin. In all other languages of Western Europe the letter has the sound of *i* in pin (nearly) and *ee* in beef, which is practically the same vowel, only in the former case short, in the latter long. In Latin the characters *i* and *j* were used interchangeably, both having the same vowel sound. The sound of our *j* did not exist in Latin, though sometimes the character had almost a consonantal force, as in *Ianus* (*Janus*), etc. With the propagation of Christianity the Latin alphabet became, in many respects, the model of others and this peculiarity of it was also adopted by most of them; so that even after two different signs (the *i* and *j*) had been adopted for the two different sounds, words beginning with *i* and *j* nevertheless long continued to be mixed together in dictionaries; but the fact that they are distinct in nature (though nearly akin) and have distinct characters, sufficiently authorizes us to separate them.

The Romans used *I* to signify one, and they continued to count with it up to four, (*I, II, III, IIII*). The Roman *I*, put before a *V*, takes away the value of one; hence *IV* is equal to four; placed after *V* it adds one; hence *VI* is equal to six. The dot over the *i* originated in the 14th century.

I, used as a pronoun, refers to the person speaking.

Iago, the villain in Shakespeare's "Othello." He causes the death of Desdemona by his falsehoods.

Iambus, in prosody, a foot of two syllables, a short and a long one (" "). In Latin the iambic verse consists of four *six* or (in the comic writers) even of eight feet. The odd feet, that is, the first, third and fifth, may be iambuses, spondees, anapæsts, dactyles, or tribrachs (but never trochees). The even feet, however, or the second, fourth and sixth must be iambuses. The more iambuses there are in the verse the more beautiful it is considered. The iambic meter is also the fundamental rhythm of many English verses, as our language runs easily and naturally in iambics.

Ibach, Lawrence J., an American astronomer; born in Allentown, Pa., Oct. 9, 1838; learned the blacksmith's trade and followed it throughout his life in Lebanon co., Pa. The fact that he worked at the forge during the day and studied astronomy at night won him the sobriquet "blacksmith-astronomer." He died in Newmans-town, Pa., Oct. 9, 1888.

Iberia, in ancient geography: (1) A fertile district in Asia, between the Euxine and Caspian seas, which consisted of a plain surrounded by mountains, a part of modern Georgia. (2) An ancient name of Spain, from its river, the Iberus (*Ebro*).

Iberville, Pierre le Moyne, *Sieur d'* a French-Canadian naval and military commander; born in Montreal, July 16, 1661. In 1699, by order of the French government he built Fort Biloxi at the head of Biloxi Bay, the first post on the Mississippi river. He afterward established other posts in the same region and was preparing to attack the coast of North Carolina when he died in Havana, Cuba, July 9, 1706.

Ibex, a wild goat, or rather several species of wild goats, the best known of which is the common ibex. It is the ibex of the ancient Romans, the steinbok of the Germans, and the bouquetin of the French. The adult male is about five feet long from nose to tip of tail, and two feet eight inches high at the shoulder. The horns are flat, with two longitudinal ridges at the sides, crossed by numerous transverse knots; they are sub-vertical, curved backward, dark in color. The hair is red-brown in summer and gray-brown in winter. It inhabits the highest regions of the Alps. An analogous species is found on the Spanish side of the Pyrenees. Three other species are found upon the Asiatic, and two more on the Abyssinian and Nubian mountains.

Ibigan, a very large goat-sucker inhabiting South America; sometimes called the grand goat-sucker.

Ibis, a genus of birds allied to the storks. The sacred ibis was venerated among the ancient Egyptians, who preserved its remains as mummies, and represented it upon their monuments. It is about the size of a hen, the plumage white. It is found through Africa. The scarlet ibis is abundant on the banks of the Amazon, and in many other parts of South America.

Iblis, in Arabian mythology, Satan, and the father of the sheytans, or devils.

Ibn Batuta, an Arab traveler and geographer, whose proper name was Abu Abdullah Mohammed; born in Tangiers in 1304. He spent 30 years (1325-1354) of his life in travel. His narrative is extremely interesting, humor and anecdote alternating with graphic description and through it all runs the thread of the writer's naive personality. He died in Fez, in 1377.

Ibn Esra, properly Abraham ben Meir ibn Esra, a Jewish writer and scholar; born in Toledo, about 1092. He traveled extensively, studying poetry, grammar, mathematics, astronomy, and philosophy. He wrote a Hebrew grammar, was one of the earliest critics and commentators on the Bible and composed hymns largely used in the Jewish liturgy. He died in 1167.

Ibn Khaldun Abderrahman, an Arabic historian; born in Tunis in 1322. He is considered the greatest of Arabic historians, his chief work being a history of the Arabs and Berbers in several volumes, with a philosophical introduction to the science of history. He died in Cairo, in 1406.

Ibrahim, Emperor of the Turks, son of Achmet; succeeded his brother Achmet IV. in 1640. He besieged and took the capital of Candia from the Venetians, in 1644; but his cruelties and debaucheries were so great that some of his own soldiers strangled him in 1649.

Ibrahim Pasha, a viceroy of Egypt; born in Cavella, Albania, in 1789. He was stepson and successor of Mehemet Ali. The latter having conceived the design of adding Syria to his dominions, Ibrahim crossed the Egyptian border with an army in October, 1831, took Acre by storm, and quickly made himself master of the whole of Syria. The interference of the great Powers eventually compelled him to relinquish all his Syrian conquests, and to return to Egypt. In 1848 he went to Constantinople, and was installed by the Porte as viceroy of Egypt; but he died in Cairo, Nov. 9, 1848.

Ibsen, Henrik, a Norwegian novelist and dramatist; born in Skien, Norway, in 1828. His youth was passed in extreme poverty. He made several unsuccessful literary attempts; in 1851, was appointed by Ole Bull, director of the National Theater at Bergen. His attention was thus turned permanently to dramatic writing. In 1859 he became artistic director of the Norwegian Theater at Christiania. He wrote "A Doll's House"; "Ghosts"; etc. He died May 23, 1906.

Icarus, in Greek legend, a son of Daedalus, who with his father fled with wings from Crete to escape the resentment of Minos. His flight being too high proved fatal to him, for the sun melted the wax which cemented his wings and he fell into that part of the Ægean sea which bears his name.

Ice, water in solid form. The color of pure ice is deep blue or green, only discernible when it is in large masses; it is best seen in the clefts of a glacier or of an iceberg. It is specifically

lighter than water which is just about to freeze, and therefore floats in it.

The trade in ice is now one of great and increasing importance. Ice has come to be more and more largely used in preserving provisions, both in refrigerating chambers and otherwise. It is also very largely used by brewers. In surgical operations it is used to produce partial anæsthesia; it serves in fevers to cool the mouth and reduce the internal temperature, while ice in bags, applied to the spine, is found helpful in many cases of seasickness, and in other applications.

In the United States the ice harvest is gathered in on an enormous scale, and with an elaborate system of apparatus. A zigzag line beginning at the N. E. corner of Rhode Island and continuing W., S. W., and then N. W. to the shore of Lake Erie, then in a generally S. W. course to Utah and Southern California, and ending at Puget Sound after turning sharply N. through California, Oregon and Washington marks the N. limit of "artificial" ice manufacture in the United States. Above it is an extensive area in which natural ice can still be harvested and marketed at considerably less cost than ice can be made by machinery.

Ice, Artificial, ice frozen by mechanical or chemical means. It has the great advantage of being easily rendered chemically pure, and it can be manufactured in the hottest countries. Its commercial value in the preservation and transportation of meats, fruits, etc., and for other purposes, can scarcely be estimated.

Iceberg, a mountainous mass of ice floating in the sea. Icebergs are produced by the breaking off of great masses from glaciers which have descended into the sea. When numbers of icebergs freeze together, they form what are called "fields" or "packs," which are often of great extent, stretching across the ocean as far as the eye can reach, and often rising in perpendicular cliffs from 80 to 100 feet above the water. Solitary icebergs are also of vast dimensions; and instances are given, both in Arctic and Antarctic voyages, of floating islands of ice several miles in circumference, rising from 40 to 200 feet above sea-level, and loaded with blocks

and shingles. As they are floated by the polar currents to warmer latitudes they melt away, dropping their burdens of boulders and debris on the bottom of the ocean.

Iceboat, a triangular framework of wood, running by means of a sail—with broad end forward—on three skates or runners 3 feet long by 8 inches deep. There is but one large sail, usually triangular, fastened to a boom and yard, which may be over 30 feet in length. Such an iceboat may be steered by the rudder-skate in almost any direction not in the teeth of the wind, and may attain an average speed of 30 or 40 miles an hour, and sometimes as much as 65 miles. Snow seriously reduces the speed. The Hudson and the Shrewsbury rivers may be regarded as the headquarters of this sport, and there are several iceboat clubs.

Ice-breaking Ship, a vessel designed to force its way through seas, bays, harbors, or rivers, when they are covered with ice. For six months of the year the Gulf of Finland, which is the waterway to St. Petersburg, in lat. 60° N., within 5° of the Arctic Circle, is frozen solid to a depth of 5 to 10 feet. Russia has not a port on the Baltic Sea or the Pacific Ocean into which ships can come from November to April. Many devices have been tried, but the "Ermak" (or "Yermak") is the only ship that has ever succeeded in forcing the barrier. The secret of the power of this wonderful vessel is that she does not break the ice by main force. Under her bow is a screw which forces the water upward. This lifts the ice and cracks it. The powerful steel bow then casts it aside like drift ice and leaves a broad channel clear in which other vessels may safely navigate. In the United States this invention has been used in keeping the Great Lakes open to navigation. An ice-breaking ship employed on Mackinac Strait has a large screw at the bow, as well as at the stern, and breaks the ice by forcing the water up under pack ice and throwing it to both sides. When the bow screw is reversed it has a sucking motion and thus supplements the action of the stern propeller. During the summer months the bow screw is detached.

Ice Calorimeter, a method of determining specific heats by means of ice.

Iceland, Republic of, a treeless island lying between the North Atlantic and the Arctic Oceans, 250 miles from Greenland and about 600 miles W. of Norway; greatest length, E. to W., 300 miles; central breadth, about 200 miles; area with adjacent isles, 39,756 square miles. Pop. (1921) 99,836. The interior has generally a very wild and desolate appearance, being covered by lofty mountain masses of volcanic origin, many of them covered with perpetual snow and ice, which, stretching down their sides into the intervening valleys, form immense glaciers. Reykjavic, the capital, in 1925 had population of 22,022.

The climate is mild for the latitude, but the summer is too cool and damp for agriculture to be carried on with much success. In the S. parts the longest day is 20 hours, and the shortest 4, but in the most N. extremity the sun at midsummer continues above the horizon a whole week, and of course, during a corresponding period in winter never rises. Vegetation is confined within narrow limits. The most valuable crop is grass, on which considerable numbers of live stock (sheep, cattle, ponies) are fed. The reindeer, though not introduced before 1770, has multiplied greatly and forms large herds in the interior; but they are of little importance economically. Wild fowl, including the eider duck, whose down forms an important article of commerce, are abundant. Sheep and fish are the chief exports, while imports are largely manufactured goods.

The inhabitants are of Scandinavian origin, and speak a Scandinavian dialect, which still represents the old Norse or Norwegian in great purity. They are of the Protestant religion.

Iceland was an independent republic from 930 to 1263, when it was joined to Norway. Both came under Danish rule in 1381, and when, in 1814, Norway separated from Denmark, Iceland remained under the latter. In 1918 Denmark acknowledged Iceland as a sovereign state, only the Danish King was also to be the King of Iceland. Permanent neutrality was guaranteed, but until 1940 Denmark has charge of its foreign affairs. Iceland has neither

army, navy nor fortifications. The Althing, or Parliament, consists of an upper house of 14 members, and a lower house of 28. Men and women over 25 have a suffrage. The Althing dates back to 930.

Iceland Moss, a species of lichen. It is slightly bitter, as well as mucilaginous. An aqueous decoction of it, when cooled, makes a thick jelly. It is used as a tonic, demulcent, and nutrient.

Icenii, a warlike tribe of ancient Britain, occupying the modern counties of Suffolk, Norfolk, Cambridge, and Huntingdon. They fought against the Romans under their queen Boadicea.

Ice Plant, a delicate annual herb, so called from the sparkling, ice-like pustules covering its leaves. It grows on sandy seashores at the Cape of Good Hope, in the Canary Islands, and in Greece near Athens.

Ich Dien, "I serve," the motto of Edward the Black Prince, whose badge was a single ostrich feather, afterward three ostrich feathers. Since Edward's time the motto "Ich Dien" and the badge of three ostrich feathers have been employed as the cognizance of the Prince of Wales.

Ichneumon, a Linnæan genus of insects, now constituting a family or tribe. They are extremely numerous in species. Many of them are minute, others are large insects. All of them deposit their eggs either in or on—generally in—the bodies, eggs, or larvæ of insects or in spiders. Particular species are the natural enemies of particular kinds of other insects. Many caterpillars are infested by three or four species of ichneumons.

Ichneumon, a genus of digitigrade carnivorous quadrupeds having a much elongated body, small head, sharp muzzle, rounded ears, and short legs. The species, which are pretty numerous, are natives of Africa and the warmer parts of Asia. The Egyptian ichneumon, the ichneumon of the ancients, is larger than a cat, gray, with black paws and muzzle. It was a sacred animal among the ancient Egyptians.

Ichneumon, the name applied to the modern science of fossil foot-prints, or other impressions on rocks.

Ichor, the ethereal fluid that supplied the place of blood in the veins of the gods of Greek mythology. The name is applied in medicine to the thin watery discharge from a wound.

Ichthyology, the science which treats of fishes.

Ichthyornis, a fossil genus of carnivorous and probably aquatic birds, one of the earliest known American forms. It is so named from the character of the vertebræ, which, even in the cervical region, have their articular faces biconcave as in fishes. It is also characterized by having teeth set in distinct sockets.

Ichthyosaurus, an extinct fish-lizard. It consists of gigantic fossil marine reptiles, with paws which show them to have been carnivorous; and the half-digested remains of fishes and reptiles even of their own species, found within their skeleton is a proof of the nature of their food. Their vertebræ were fishlike, their paddles like those of a porpoise or a whale, and their long powerful tail a propeller which enabled them to dart with great rapidity through the water. One of the earliest and best known species must have been more than 24 feet long.

Ichthyosis, a name for fish-skin disease, characterized by the development on the skin of thick, hard, dry, imbricated scales of a dirty gray color. There is no pain, heat, or itching. It is said to be a congenital disease and lasts through life.

Iconium, an ancient town of Asia Minor, on the W. edge of the plateau that skirts the N. slope of the Taurus Mountains, 310 miles E. of Smyrna. The capital under the Romans of Lycaonia, it was three times visited by St. Paul, who founded there a Christian Church. In 708 it fell into the hands of the Arab conquerors. The modern town is called Konia, the capital of the Turkish vilayet of the same name. Here is the principal monastery of the Mevlevi or "dancing" dervishes in the Ottoman empire.

Iconoclasts, that Christian party which would not tolerate images in the churches, much less the adoration of them. This dispute began in Greece, and extended from thence over Europe; it was most violent in the

8th and 9th centuries. The first cause of the Christian worship of images was the attempt to preserve the memory of the bishops and the martyrs by images. In the 4th, and still more in the 5th century, they were placed in the churches, but in the 6th century people began to kiss the images in token of respect, to burn lights before them, to offer incense in honor of them and to ascribe to them miraculous power. The Eastern Emperor Leo III. issued an edict in 726 ordering the people to abstain entirely from the worship of statues, as well as paintings and mosaics, and this edict was soon after followed by another ordering the destruction of the images. This order occasioned commotions, and the Emperor Leo refusing to recall his edict on their command they excommunicated him, and his subjects in Italy threw off their allegiance. Then arose two parties in the Christian Church, namely, the Iconolatras (image worshippers) and the Iconoclasts, who each in turn persecuted the other even to death. Finally the Empress Theodora, by a council held at Constantinople (842), restored the worship of images among the Greeks. In the Western empire images were at first retained only to preserve the memory of pious men but the worship of them was forbidden. This use of them was confirmed by a council summoned by Louis the Debonnaire in 825; but this opinion was gradually abandoned, and the decision of the Pope, which allowed the worship of images, finally prevailed in the Western Church.

Ice Cape, a headland of Alaska, projecting into the Arctic Ocean.

Ida, a high mountain range in Asia Minor, extending from Phrygia through Mysia into Troas. The city of Troy was situated at its base. It is the scene of many ancient legends. On this Ida, according to an ancient legend, Zeus was educated.

Idaho, a State in the Western division of the North American Union; bounded by Montana, Wyoming, Nevada, Oregon, Washington and British Columbia; admitted to the Union July 3, 1890; number of counties, 37; capital, Boise; area 83,888 square miles; pop. (1930) 445,032.

The surface of the State is exceedingly mountainous. The Rocky

Mountains form the N. E. boundary separating Montana from Idaho, and send out spurs in a W. direction extending to the Sierra Nevadas. Three-fourths of the State—the S. portion—is arid, agriculture being practiced only by means of irrigation and large projects, federal and private, are built, with others in process. Idaho drains into the Columbia with the exception of a small portion in the S. E., which is drained by Bear river into the Salt Lake basin. There are many beautiful waterfalls in the State, namely, Shoshone, the 210-foot fall, Twin, Salmon, and American Falls. The mean elevation of the State is about 4,700 ft.

The soil is largely of volcanic origin and is very fertile when water is applied. The mountains are for the most part covered with forests, which are largely evergreen. The S. counties are covered with sage plains which, under irrigation, are well adapted to agriculture. The N. portion of the State and the upper portion of the Boise, Weiser, and Payette valleys are covered with dense forests, the principal timber being white and yellow pine, fir, cedar, spruce, and hemlock.

Gold, silver, and lead occur in abundance throughout all the mountains in the State. Large bodies of goldbearing gravel are found along the Snake, Salmon, and Boise rivers. In the calendar year 1929, the value of all mineral products was \$28,589,000, lead leading with 141,748 short tons.

The N. part of the State is noted for its wheat. All cereals and the ordinary garden vegetables and small fruits are grown. The value of 67 farm crops in the year 1929 was \$103,700,000 and of live stock \$52,033,000; wheat leading in crops with \$24,353,000 and sheep in animals with 2,260,000 head. The mountains of the S. portion afford excellent pasturage. The principal articles of manufacture include flour and grist, railroad cars, lumber and timber products, printed matter, harness and saddlery. Number of establishments (1927) 470; wage earners, 13,513; value of products, \$86,256,000.

In 1929 there were 137 banks in the State with total resources of \$100,421,000, time deposits, \$34,389,000, demand deposits, \$48,283,000.

School enrollment is unusually high, about one to each four persons. There are 1,188 public schools, two state normal schools, the College of Idaho at Caldwell, and University of Idaho, at Moscow.

The governor is elected for a term of two years and receives a salary of \$5,000 per annum. Legislative sessions are held biennially, and are limited in length to 60 days each. The Legislature has 33 members in the Senate and 61 in the House, each of whom receives \$5 per diem. There are 2 Representatives in Congress.

Idaho was for years successively a part of Oregon, Utah, Washington, and Nebraska, and was explored early in the 19th century by Lewis and Clarke. A mission was established at Cœur d'Alene in 1842, but till the discovery of gold in 1852 the State was visited only by hunters. Idaho was organized as a Territory, March 3, 1863, but in 1864 part of it was set apart as Montana and in 1868, another part, forming part of Wyoming. In the summer of 1889 a convention framed a constitution and a petition for admission to the Union, which was granted in the following year.

In 1913 the debts of counties, cities, and minor civil divisions aggregated \$11,987,079, and, June 30, 1920, the State had a net debt of \$3,880,750.

Iddesleigh, Stafford Henry Northcote, 1st Earl of, an English statesman; born in 1818. He was educated at Balliol College, Oxford, where he gained the highest honors; became private secretary to Gladstone in 1843, and was called to the bar in 1847. He was made special commissioner to the United States to arrange the "Alabama" difficulty. Subsequently he was secretary for India (1867-1868) and chancellor of the exchequer (1874-1880). Upon Mr. Disraeli's elevation to the peerage he became leader of the Lower House, his task being all the more difficult on account of the parliamentary obstruction of the Irish Home Rule party. He was elected lord rector of Edinburgh University in 1883. Lord Salisbury having undertaken to form a government, he was created (1885) Earl of Iddesleigh, and became first lord of the treasury. He died in 1886.

Ide, Henry Clay, an American diplomat; born in Barnet, Vt., Sept. 18, 1844; became United States Commissioner to Samoa, 1891; Chief Justice there under appointment by England, Germany, and the United States, 1893-1897; member of Philippine Commission, 1900; Vice-Governor, Philippines, 1904-1905; acting and full Governor-General there, 1905-1906; Minister to Spain, 1909. Died June 13, 1921.

Idealism, the name given to certain philosophical systems which deny the individual existence of object apart from subject; or of both apart from God or the Absolute. Idealism denies the existence of bodies, holding that their appearances are merely ideas (perceptions) of the cogitant subject. Subjective idealism teaches that these ideas are produced by the mind; objective idealism that God is their author. To these two hypotheses all idealism may be reduced.

Ideas, in the ancient Roman calendar, the 15th day of the months March, May, July, and October, and the 13th of the other months.

Idiocy, a condition defined by Ireland as "mental deficiency or extreme stupidity depending upon malnutrition or disease of the brain occurring either before birth or before the evolution of the mental faculties in childhood; while imbecility is generally used to denote a less decided degree of such mental incapacity." The difference between both conditions and dementia is that the dement was once sane and responsible, the idiot and the imbecile never developed mental capacity at all; they remained arrested children. There are great varieties of idiocy and imbecility. Some of the lowest have no speech, no power of distinguishing between one person and another, no affection or hatred, no feelings of pleasure or pain, no power to take care of themselves, and can never be taught any of these things. In body such idiots are dwarfish, misshapen, ugly, with the features and expression of face often of the lowest of the lower animals, with no power of walking. This being the condition of the lowest varieties, they rise gradually in the scale till many imbeciles are beautiful in features, and reach normal bodily development, but are slightly wanting

in some essential mental faculty, in intelligence, or in affection, or control, or self-guidance. The mental deficiency is in by far the majority of idiots and imbeciles accompanied by corresponding bodily weaknesses.

Idiots and imbeciles are regarded as children all their days by the law, and provisions are made for the appointment of tutors and curators for them. They are held irresponsible for their acts.

Idiosyncrasy, a distinctive peculiarity of the mental or bodily constitution of any person, or that constitution or temperament which is peculiar to any person.

Idolatry, the worship of idols, images, or representations made by hands to represent divinity, or of any inanimate object; the worship of false gods; paganism. According to Sir John Lubbock, idolatry or anthropomorphism is the fifth of six progressive stages in the history of religion. The ancient Egyptians, the Greeks, and the Romans, the modern Chinese, Burmese, Hindus, etc., are all in that fifth stage of religious development.

Idria, a mining town in the Austrian crownland of Carniola, celebrated for its quicksilver mines (discovered in 1497). Upward of 230 tons of quicksilver are produced annually, and about 20 tons of cinnabar (red sulphuret of mercury).

Idyl, or **Idyll**, a short poem, the subject, or at least a necessary accompaniment of which, is a simple description of pastoral nature, life, and scenery, or of events in pastoral life; as Goldsmith's "Deserted Village," etc. Tennyson has given the name "Idylls" to a series of poems founded on incidents in the Arthurian legend.

Igarape, a canoe-pass, the name given by the Indians to the side-channels or bayous by which the river Amazon is bordered from its mouth up to a great distance.

Iglehart, Ferdinand C., A. M., D. D., born in Indiana, Dec. 8, 1845; pulpit orator, reformer, and author. His latest work "The Speaking Oak" (1903) passed through several editions, aggregating 30,000 copies.

Iglesias, Jose Maria, a Mexican historian and publicist; born in the City of Mexico, Jan. 5, 1823; figured

very prominently in his country's politics; and wrote: "Contribution to a History of the War between Mexico and the United States." D. in 1891.

Iglesias, Miguel, a Peruvian statesman; born in 1822. He held cabinet offices; led the army in the war with Chile; and was defeated for the presidency in 1886. D. in 1909.

Igloodik, an island near the E. end of the Fury and Hecla Strait in the Arctic Ocean; the place where Parry passed the winter of 1822-1823.

Ignacio, a group of islands of Mexico, in the Gulf of California, off the coast of the State of Sinaloa.

Ignatieff, Nikolai Pavlovitch, a Russian diplomatist; born in St. Petersburg in 1832. He was conspicuous in the negotiations before and after the Russo-Turkish war, and was appointed minister of the interior, but was dismissed in 1882. He represented the party in favor of war, in opposition to Prince Gortchakoff. He was subsequently made governor-general of Irkutsk. He died in 1908.

Ignatius, surnamed Theophorus, a father of the Church, and martyr; a native of Syria, and a disciple of St. John, the Evangelist, by whom he was made bishop of Antioch, A. D. 68. After discharging the episcopal office with great zeal for 40 years, the Emperor Trajan, passing through Antioch in his Parthian expedition, sent for him, and endeavored to prevail upon him to renounce his religion. Ignatius continued inflexible; on which the emperor sent him under a guard of soldiers to Rome, where he was exposed to wild beasts in the amphitheater for the amusement of the people. The martyr endured his sufferings with fortitude. Two pious deacons of his church gathered up his bones, and conveyed them to Antioch.

Ignatius, Father. See **LYNE**.

Igneous, in geology, a term applied to all agencies, operations, and results, which seem connected with, or to have arisen from, subterranean heat. Igneous rocks are evidently the products of fusion, either in the interior or at the surface of the crust.

Ignis Fatuus, a kind of luminous meteor, which flits about in the air a little above the surface of the earth, and appears chiefly in marshy places,

or near stagnant waters, or in churchyards, during the nights of summer. This phenomenon has not yet received a satisfactory explanation. The most general opinion is, that it is due to the emanation and spontaneous combustion of some highly inflammable gas, given off by decaying organic matter.

Ignoramus (Latin, "we do not know"), the word formerly written by a grand jury on the back of an indictment, meaning that they rejected it. The word is now used most commonly as a synonym for a blockhead.

Igor I., a grand duke of Russia; succeeded his father Rurick, and, after making war a long time against his neighbors, proceeded to ravage the East, deluging with blood Pontus, Paphlagonia, and Bithynia. He left his throne to his wife Olga, who in her old age embraced Christianity. He died in 935.

Iguana, a genus of saurian reptiles, natives of Brazil, Cayenne, the Bahamas, and neighboring localities in the New World. It was formerly very common in Jamaica, but is now becoming gradually rarer. It has a lizard-like form, with a long tail, and an average length of about four feet, though it sometimes reaches a length of fully six feet. Its head is large and covered with large scales. The food of the Iguana consists almost entirely of fruits, fungi, and other vegetable substances, though it occasionally feeds on eggs, insects, and various animal substances. When domesticated it eats leaves and flowers. Along the whole length of the back to the tip of the tail there is a crest of elevated, compressed, pointed scales, while over the lower part of the head and neck there is a deep, thin dewlap or throat pouch, the border describing a curved line and denticulated at the part nearest the chin.

Iguanidæ, a family of Lacertian reptiles belonging to that group which possesses a columella, whose vertebrae are concave anteriorly, and which have epidermic plates on the head. The genus *Draco*, whose metropolis is in Asia, is remarkable for the possession of a patagium or parachute-like expansion of the integument of the sides of the body from the shoulder to the flank. The membrane is supported by

rib-like processes, and is not a wing, but simply when expanded allows the animal to glide through the air from a higher to a lower level. Some of these forms are smaller than many tropical butterflies, and their colorings are similar to those of nocturnal moths.

Iguanodon, the largest known quadruped; was a denizen of South England during the later Tertiary times. It belongs to an assemblage of reptiles whose pelvic bones are strikingly like those of birds. The size attained by these reptiles was overestimated by Mantell and Buckland at 70 feet; Owen's calculation is 30 feet, a size still gigantic enough to impress strongly on the imagination the extent of the cretaceous continent and wealth and size of its vegetation.

Ik Marvel. See MITCHELL. DONALD GRANT.



IGUANA.

Ile-de-France, one of the old provinces of France, having Paris as its capital, and now mostly comprised in the departments of Seine, Seine-et-Oise, and Oise.

Iletz, a town in the Russian government of Orenburg. Close by is the richest salt-bed in Russia, yielding nearly 21,700 tons of salt annually. It was discovered by Pallas in 1769.

Ileum, the portion of the small intestines communicating with the larger intestine.

Iliad, a celebrated epic poem in the Greek language, consisting of 24 books. Its composition is generally ascribed to Homer. The chief subject of the poem is the wrath of Achilles, and the calamities thence arising.

Ilion, a village in Herkimer county, N. Y.; on the Mohawk river, Erie canal and several railroads; 11 miles S. E. of Utica; is widely noted for its extensive manufacture of firearms, bicycles, typewriters, and typesetting machines. Pop. (1930) 9,890.

Ilium, or **Ilion**, a name of Troy, in Greece, which was founded by Ilus.

Iliyats, a nomadic race of Persia, Khiva, and Turkestan. The Iliyats are mostly of Turkish, Arabic, and Kurdish descent, and form an important portion of the population of Persia and adjacent countries; their actual numbers are not known, but it is said that the Iliyat tribes tributary to Khiva number 195,000. They live in tents and have no settled habitations. They are Mohammedans of the Sunni sect, but are not very strict. The women are said to be chaste, and many of the best families in Persia are of Iliyat origin.

Illimani, one of the loftiest peaks in the Bolivian Andes, fully 21,000 feet high, and covered with glaciers.

Illinois, a State in the North Central Division of the North American Union; bounded by Indiana, Kentucky, Missouri, Iowa, Wisconsin, and Lake Michigan; admitted to the Union, Dec. 3, 1818; number of counties, 102; capital, Springfield; area, 56,650 square miles; pop. (1930) 7,630,654, 67.9 being urban.

The surface of the State is generally flat, rising in an inclined plane from a depression of 300 feet near Cairo to an elevation of 820 feet in Jo Daviess county. A spur of the Ozark Mountains crosses the S. part of the State. The principal physical features of the State are the great prairies or natural meadows, from which Illinois derives its popular name, the "Prairie State." The river system of Illinois is the most extensive in the Union. The Mississippi forms its entire W. boundary, and its great E. tributary, the Ohio, with its affluents,

the Illinois, Wabash, Kankakee, Des Plaines, Kaskaskia, Mackinaw, Sangamon, Vermilion, and their numerous tributaries, form a water system of over 280 streams.

During the calendar year 1928 the value of the entire mineral output was \$188,099,000. Coal led with 55,640,000 tons; pig iron production was 3,942,000 tons; petroleum 6,459,000 barrels; and clay products over \$15,000,000. Though but little iron exists in Illinois, its fuel advantages give it third place in the Union in the treatment of iron ores. Other important mineral productions are mineral waters and natural gas. Besides these, there are deposits of lead, copper, gypsum, limestone, and marble.

The soil is generally black, light, rich, and warm, and free from stones and pebbles, though in places it is mixed with a siliceous sand. Illinois is one of the foremost States in agriculture. In 1925 it had 225,601 farms comprising 30,732,000 acres of which 27,295,000 were improved. The total capital investment in farm property was \$3,905,321,075. In the calendar year 1929 the crop output had a value of \$433,400,000 and farm animals a value of \$281,402,000, corn leading in the former with \$224,280,000 and horses in the latter with \$153,912,000.

The manufacturing industry in 1927 had 14,711 plants, 623,648 wage earners, \$914,103,000 for wages and yielded products valued at \$5,386,003,000.

There is great steel mill output; printing and publishing of book, trade journal and newspapers (has output of over \$151,200,000); furniture, men's clothing; motor vehicles and parts; confectionery; corn syrups, corn oil, starch, flour, feed, leather, lumber, pianos, paints, varnishes, wood pulp, all are produced in quantity.

Illinois is included in the new Federal Reserve Banking District, and Chicago is one of the twelve central reserve cities.

In 1927 the assessed valuation of taxable property was, real estate \$3,038,000,000; personal property \$801,000,000; railroad property \$356,000,000, total \$4,195,000,000; assessed value, one-third of actual value. The revenue in 1927 was \$79,483,000; expenditures \$50,021,000. There was a

bonded debt of \$145,293,000.

The 1920 census showed 1,116,099 pupils and students in all educational institutions reporting, about one in each six persons. Besides the public school system, there are 29 colleges and universities, and five State normal schools for training of teachers. The largest universities are the University of Illinois at Urbana, 14,594 students; the University of Chicago, 14,245; Northwestern University at Evanston, 14,664; Loyola University at Chicago, 4,992; De Paul University at Chicago, 6,745.

Illinois ranked second (1927) among the States in railroad mileage, 11,994, operated by 26 of the great systems, and the heaviest railway transport tonnage in the United States, Chicago being the greatest railway center in the world.

The governor is elected for a term of four years and receives a salary of \$12,000 for annum. Legislative sessions are held biennially and have no time limit. The Legislature has 51 members in the Senate and 153 in the House. There are 27 Representatives in Congress.

The first white settlement in Illinois was the Jesuit mission at the Indian village of Kaskaskia, founded by Marquette in 1673. It was part of a county of Virginia till 1787, when it became a part of the Northwest Territory, and in 1809 it became the Territory of Illinois. Illinois was admitted to the Union in 1818.

Illinois, University of, a coeducational non-sectarian institution in Urbana, Ill.; founded in 1868.

Illinois Wesleyan University, a coeducational institution in Bloomington, Ill.; founded in 1850.

Illuminati, a Spanish sect known as Alumbrados. They rejected the sacraments, held that by mental prayer they might attain such perfection as to dispense with good works, and commit any crime without sin.

The name has been given to many secret societies, including a society formed at Ingolstadt, in 1776, by Adam Weishaupt. The Baron von Knigge quarreled with Weishaupt; the order was suppressed by edict, 1785, and Weishaupt was banished. The Illuminati were supposed to exercise

Illumination of MSS.

great political influence; but it is now believed that the views on that subject were exaggerated.

Illumination of Manuscripts, the art of painting manuscripts with miniatures and ornaments, an art of the most remote antiquity. The Egyptian papyri containing portions of the Ritual or "Book of the Dead" are ornamented with veritable drawings and colored pictures. Among Oriental nations, the Persians, Hindus, and Chinese have illuminated manuscripts of great beauty, none of which, however, can compete with those of the western nations in antiquity. For beauty of design some of the Arab manuscripts are charming, but their antiquity does not reach beyond the 13th century. The Chinese Buddhists have also illuminated classics, or religious books of their sect.

Illusions, conditions usually distinguished as having some basis in outward physical facts, from delusions, which are purely subjective hallucinations, with no foundation save perverted imagination, or otherwise disordered faculties. Optical illusions are exemplified by the appearances connected with mirage.

Illyria, Illyris, or Illyricum, a name anciently applied to the countries on the East coast of the Adriatic Sea, together with the adjacent islands and the western parts of Macedonia, south of Epirus, inhabited by the Illyrians.

Iloilo, the capital of the island of Panay in the Philippine group, and second only in importance to Manila, from which it is 250 miles distant. Early in 1899 it was taken possession of by the insurgents, who drove the Spaniards out and made it the seat of the so-called government of the Visayas Federation. After the treaty of peace between Spain and the United States was ratified, Feb. 6, 1899, General Miller was instructed by General Otis to communicate with the rebel governor and make conditions of surrender. This was done Feb. 11, and the insurgents were given till the evening of that day to evacuate the city under penalty of bombardment and assault. Their only reply was to fire upon the gunboat "Petrel," conveying General Miller. The "Petrel" and her consort, the "Baltimore," then

Image Worship

bombarded the town and in a few hours the insurgents set fire to the place and fled. The American troops soon extinguished the fire and hoisted the stars and stripes. Iloilo has a fine harbor, and a better climate than Manila, and is surrounded by extensive sugar plantations. Pop. (Est.) province, 500,000; city, 49,110.

Image Worship, the adoration in public or private of graven or painted representations of sacred persons or things. Neither in the New Testament nor in any genuine writings of the first age of Christianity can any trace be discovered of the use of statues or pictures in the worship of Christians, whether public or private. Later, however, the introduction of images into the church, first as representations of distinguished ecclesiastics and saints, which later came to be objects of worship, caused a controversy which lasted for centuries.

At the Reformation the reforming party generally rejected the use of images as an unscriptural novelty, and stigmatized the Roman Catholic practice as superstitious and even idolatrous. The Zwinglian, and subsequently the Calvinistic Churches entirely repudiated all use of images for the purposes of worship. Luther, on the contrary, while he condemned the worship of images, regarded the simple use of them even in the church for the purpose of instruction and as incentives to faith and to devotion as one of those adiaphora, or indifferent things, which may be permitted, though not of necessary institution; hence, in the Lutheran churches of Germany and the Northern kingdoms, pictures, crucifixes, and other religious symbols are still freely retained. In the Protestant Episcopal church the practice is still the subject of controversy. In other Protestant churches images are never seen.

The Roman Catholic Church, through the decree of the Council of Trent, disclaims the imputation commonly made against Roman Catholics of the idolatrous worship of images, "as though a divinity dwelt in them, or as though we (Roman Catholics) asked anything of them, or trusted in them, as the heathens did in their idols." It renews the Nicene distinction between absolute and relative worship; the latter of which alone—

"whereby we worship Christ and the saints, who are the prototypes of these images"—it sanctions or permits; and it contends for the great advantage, especially in the case of rude and unlearned people, to be drawn from the use of pictures and statues in the churches as "memorials of the sufferings and of the mercy of our Lord, as instructive records of the virtues of the saints, and exhortations to the imitation of their example, and as incentives to the love of God and to the practice of piety."

Imbecility, the quality or state of being imbecile; weakness, mentally or physically. That which in its highest form is genius, in its lowest is imbecility.

Imbriani, Vittorio, an Italian poet; born in Naples, Oct. 27, 1840; died in Naples, Jan. 1, 1886.

Imitatio Christi, a famous book translated into more languages than any other except the Bible. The question of its authorship has given rise to a great controversy. It was formerly attributed unhesitatingly to Thomas a Kempis, and the best authorities still regard it as his work. But it has been claimed for Bernard of Clairvaux, and for many other writers, both famous and obscure.

Immaculate Conception, a name applied to the Roman Catholic dogma that the Virgin Mary was specially preserved, by Divine interposition, at the moment of her conception, from the taint of original sin. The doctrine was early broached in the church, but was rejected by Bernard and others. The discussion was revived early in the 14th century by Duns Scotus, who maintained the doctrine against the Thomists, who rejected it. From that time until the accession of Pope Pius IX. in 1846, it was disputed, with a growing tendency toward acceptance. That pontiff addressed a circular to the bishops of all nations, calling for their opinions. After receiving them, he issued a decree on December 8, 1854, making the doctrine a dogma of the church. It is not believed by Protestants.

Immanence, the notion that the intelligent and creative principle of the universe pervades the universe itself, a fundamental conception of Pantheism.

Immanuel, the name which was to be given to a child who, it was prophesied by Isaiah, was to be born of haalmah, i. e., the virgin. In Matt. i: 23 the prophecy is applied to the miraculous birth of Jesus from the Virgin Mary.

Immigration, the entrance into a country of aliens with a view to settlement. The voluntary immigration of aliens into the United States has been a potent factor in the creation of the country's greatness. In the early years it brought the best of every country; the men with courage and enterprise enough to risk all the dangers and hardships of emigration in order to improve their own condition and that of their children after them. But much of the recent immigration has been of a different sort. For a time European governments by "assisting" emigrants poured in upon America paupers, cripples, insane persons, and incorrigible criminals. This was prevented or very greatly checked some years ago. Then came "head money" immigration—that is to say, immigration induced by the agents of steamship and railroad companies, whose sole concern was to secure passage money, as they might seek cattle shipments for freight money. It was an evil so pronounced that Congress passed a general law in 1897 dealing with the entire subject of immigration. Supplementary bills were enacted into law subsequently. Persons of bad moral character, and those who are physically or mentally defective, or liable to be a burden on the community are excluded; also all who have come to work under contract at any trade or common labor.

Records of immigration into the United States are very meager prior to 1820, but from that date they have been carefully kept. It is estimated that the total alien arrivals in the period of 1789-1820 were 259,127. In the period of 1820-1916 official reports show a total of 32,652,950 of such arrivals, making a probable total in the period of 1789-1916 of 32,912,077. Immigration fell off largely after the outbreak of the war in Europe. Thus in 1914 the total was 1,218,480; in 1915 it declined to 326,700; and in 1916 to 298,826. The emigration from the United States of aliens in 1914 totalled 303,338; in

Immortality

1915, 204,074; in 1924, 706,896. Since 1820 the home countries of the largest number of immigrants were, as given, Germany, Ireland, England, Austria-Hungary, Italy and Russia. July 1, 1929, a new national origins system became effective which reduced the numbers admitted from Germany, Irish Free State and Scandinavian countries, and increased those from Great Britain, Northern Ireland, Italy, The Netherlands, Belgium and others.

Immortality, exemption from death; the state of everlasting life. The dogma of the immortality of the soul is very ancient. It is connected with almost all religions, though under an infinite variety of conceptions. By the immortality of the soul we understand the endless continuation of our personality, our consciousness, and will. In ancient Egypt, the belief in immortality is conditioned on the preservation of the body. Hence their care to embalm the corpse. In ancient Persia the belief existed even before Zoroaster. In the Old Testament, immortality is assumed rather than directly stated, and even down to the time of Christ some denied it. (See Luke XX:27) Christ's answer to them in the following verses, though leaving details unexplained, settles the general question of immortality for all Christians. The doctrine of conditional immortality *i.e.*, immortality not inherent, but conferred on believers in Christ, but not on the impenitent, has been held by many eminent men, and has been revived here and in England in late years. There is also a divergence of belief, as to whether the doctrine of immortality includes the resurrection of the body.

Immune, safe from an attack; protected, as from a specific virus or disease by vaccination, inoculation, or antitoxin treatment, or by previous illness. During the Spanish-American War 10 regiments of yellow fever immunes served in Cuba.

Impalement, a cruel punishment not uncommon in the Dark Ages, and still practised in barbarous countries. The body of the victim is impaled on a sharp stake.

Impeachment, the act of accusing, or charging with a crime or misdemeanor; the arraignment of a minis-

Imperial City

ter of state for maladministration or treason.

The Constitution of the United States provides that the House of Representatives shall have the sole power of impeachment; and that the Senate shall have the sole power to try all impeachments. Section 4 of Article II. provides that the President and Vice-President and all civil officers of the United States shall be removed from office on impeachment for and conviction of treason, bribery, or other high crimes or misdemeanors. The removal of Federal officers by impeachment proceedings under Section 4 of Article II. of the Constitution has been attempted seven times.

The most noted case of impeachment in the United States was that of Andrew Johnson on March 4, 1868, the 11 articles charging the President in various forms with violation of the Tenure of Office act, with violation of the Constitution, with conspiracy to prevent the execution of the Tenure of Office act, with conduct and utterances tending "to bring the high office of President into contempt, ridicule, and disgrace"; and with the public declaration, in his speeches while swinging around the circle, that the Thirty-ninth Congress was no constitutional legislature. It is not necessary to recite the history of the memorable trial, which lasted for nearly three months, and in which the hottest of political passions were enlisted. Thirty-six votes were needed to convict. No vote was ever taken except on the three strongest articles, the second, third, and eleventh, and on each of these the Senate stood 35 for conviction to 19 for acquittal, impeachment failing by a single vote. One of the counsel who defended President Johnson was William M. Evarts of New York.

In England impeachments are made in the House of Commons and tried by the House of Lords.

Imperator, a title originally bestowed upon a victorious Roman leader on the field of battle by his soldiers; toward the end of the commonwealth it was conferred by the Senate. Later it became equivalent to the modern emperor.

Imperial City, a designation of Rome, for ages mistress of the world.

Imperial Federation, a term in English politics for the consolidation of the British empire, so as to combine its resources for the maintenance and defense of common interests, while leaving intact the existing rights of colonial parliaments in local affairs.

Imperial Guard, the name given to the consular guard when Napoleon I. became Emperor of France in 1804. It was disbanded in 1815, but revived on May 4, 1854, and took part in the Crimean War in 1855. In 1870 it surrendered at Metz to the Germans, and was soon after abolished.

Imperialism. In the United States "imperialism" is used to refer to the policy of "national expansion." The opponents of expansion made the constitutional right of the United States to establish a government over territory acquired by conquest or purchase a question in the political campaign of 1900; the Democrats holding such government unconstitutional; Republicans affirming that the responsibility resultant from the defeat of Spain, and the ensuing failure of Spanish government, must be met, and a stable government established. On Dec. 2, 1901, the Supreme Court of the United States handed down a decision on the constitutionality of the policy of expansion. The broad principles settled by the decision are succinctly stated to be these: (1) The Constitution does not follow the flag till it is planted on new territory by special act of Congress. (2) The extension of the sovereignty of the United States to new territory carries with it all the constitutional guarantees of the enjoyment of liberty, the right to property and the protection of the United States to the people thus affected in securing justice and maintaining public order and promoting peaceful progress. (3) The islands acquired from Spain by the treaty of Paris are "property of the United States" in the strict sense in which that term is used in the Constitution, and Congress can dispose of them to the best interests of the people of the U. S. and of the islands.

Imperial Valley. See SALTON SEA.

Impost, a tax, a toll, a tribute, a duty; a custom or duty levied upon goods imported.

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Impressionism, the system in art or literature which, avoiding elaboration, seeks to depict scenes in nature as they are first vividly impressed on the mind of the artist or writer.

Impressment, the forcible levying of seamen for service in the navy. The practice of impressing and granting powers to the British admiralty for that purpose is of very ancient date; though no statute has expressly declared this power to be in the crown, yet many of them strongly imply it.

Imprimatur, a license which, in countries subjected to the censorship of the press, must be granted by a public functionary appointed for the purpose before any book can be printed.

Imprisonment, the restraint of one's liberty under the custody, charge, or keeping of another. Imprisonment extends not only to a jail, but to a house, stocks, or where a man is held in the street, for in all these cases the party so restrained is said to be a prisoner so long as he has not his liberty freely to go about his business as at other times. No man can be imprisoned except by the law of the land, and no man is to be imprisoned except as the law directs, either by command and order of a court of record, or by lawful warrant.

Improvisatore, one who composes and recites or sings extemporaneous or impromptu verses upon any given subject without premeditation.

Inca Palm, a tree growing in South America, common to the countries near the Amazon; sometimes called the jagua palm. It has a tall, heavy stem, and its leaves are sometimes 50 feet long. The fruit grows in clusters and has a tough skin, a soft pulp, and a hard, stony seed. The Indians eat it and monkeys and birds are fond of it.

In Articulo Mortis (at the moment of death), a phrase relating to the execution of deeds by persons at the point of death.

Inca, a Peruvian or rather Quichua title, signifying chief, applied to the imperial head of the Peruvian empire, and also to the governing caste or race from which he sprang, and which had a prescriptive right to the highest sacerdotal and civil dignities of the empire.

Incantation, a formula, either said or sung, supposed to add force to magical ceremonies. Incantations in classic times were employed: (1) To control the powers of Nature; (2) to compel the attendance and assistance of supernatural beings; (3) as love spells, in which sense they linger to the present day; and (4) as a means of inflicting injury. Occasionally they were used in sympathetic medicine.

Incarnation, the usual theological term for the union of the divine nature with the human in the divine person of Christ.

Incense, a perfumed vapor usually of smoky appearance, used in religious rites.

Jewish.—This is sometimes confounded with frankincense, which is the name of a plant. Incense was compounded of stacte, onycha, galbanum, and pure frankincense, an equal part of each by weight. Incense was to be burnt every morning and evening on the "altar of incense," on the great day of atonement, and on a number of other specified occasions.

Christian.—In the Roman and Greek Churches it is used in all the solemn offices. It is mentioned in the first *Ordo Romanus*, probably of the 7th century. In the English Established Church the use of incense was gradually abandoned after the reign of Edward VI. till the ritualistic revival of the present day; but it has never been formally prohibited.

Inch, a lineal measure, being the 12th part of a lineal foot, or the 36th part of a lineal yard.

Inclination, the mutual approach, tendency, or leaning of two bodies, lines, or planes toward each other, so as to make an angle where they meet, or where the lines of their direction meet. This angle is called the "angle of inclination." In pharmacy, the act by which a clear liquor is poured off from some fæces or sediment by only stooping the vessel; also called decantation.

Inclined Plane, one of the mechanical powers. It consists of a plane, inclined obliquely to the horizon. The inclined plane is used for the descent of bodies; also for the ascent, by vehicles, etc., of hills far too steep to be directly scaled by wheeled carriages.

In Coena Domini, a celebrated papal bull. It may be briefly described as a summary of ecclesiastical censures, especially of those with which grievous violation of the faith of the Church, or of the rights of the Church, or of the Roman see, are visited.

Incombustible Substances, those which have been so prepared as to be incapable of being kindled or of being consumed by fire. Cloth made of the fibers of asbestos, by weaving, will bear a considerable heat without injury. Incombustible cloth is also made by preparing cotton and linen fabrics with solutions of borax, phosphate of soda, phosphate of ammonia, or sal-ammoniac.

Income Tax, a tax levied directly from income of every description, whether derived from land, capital, or industry. In the United States an income tax was first imposed in 1861, which after various modifications ceased June 30, 1870. The tariff act of 1894 imposed a tax on incomes, but this feature of the act was declared unconstitutional in 1895, and the tariff act of 1913 contained a section imposing a tax on all incomes exceeding \$3,000 per annum, rated according to specified amounts, under the new XVIth Amendment. Another income tax was imposed by the War Revenue Act of Congress in 1917. A next tax law went into effect May 29, 1928.

Incubation, in pathology, the maturation of morbid matter introduced into the system.

Artificial incubation is the hatching of eggs by means of heat artificially applied. Egyptians have long done so successfully by means of heated ovens. Some years ago it was calculated that a hundred million chickens were thus annually produced in Egypt. In late years the hatching of eggs by incubation has become a lucrative business in parts of the U. S.

Incunabula, a term applied by bibliographers to editions of books printed during the early period of the art, and generally limited to works which appeared previous to 1500.

Indemnity, an act designed to relieve the government or any of its officers from penalties when they have been compelled by exceptional circum-

stances to omit the performance of some duty, or to violate or even to suspend some law.

Indenture, a deed entered into between two or more parties, and so called because duplicates of every deed between two or more parties were once written on one skin, which was cut in half, with a jagged or indented edge; so that they were seen to belong to one another.

Index, a compilation of figured or numbered entries for purposes of reference. In mathematics, the index of a radical is a number written over the radical sign to denote the degree of the root to be extracted. An index is generally a whole number greater than 2. When the square root is indicated, the index is generally omitted, being understood.

Index Prohibitorum, a list of books which may not be read by Roman Catholics, cleric or lay, on pain of excommunication. The Council of Constance (1415) ordered the books of Huss to be burnt, and Leo X. condemned the writings of Luther. In the 17th session (Feb. 26, 1562) of the Council of Trent, a commission was appointed to compile an Index of Prohibited Books and a code of general rules on the subject. The first Index was published in 1564.

India, as defined by the British Parliament, comprises all that part of the great Indian Peninsula which is directly or indirectly under British rule or protection. The term British India includes only the districts subject to British law, and does not include native States. Hither India is the central peninsula of Southern Asia, and Farther India is the usual name applied to the S. E. peninsula of Asia. Since 1912 British India has been divided into 15 provinces, which in 1921 had an area of 1,093,074 square miles and a population of 247,138,396. The native States had an area of 709,555 and a population of 71,936,736, giving the entire Indian Empire an area of 1,802,657 square miles and a population of 319,075,132, of which 30,000,000 were classed as urban and 280,000,000 as rural.

The provinces of British India are Madras, Bombay, Bengal, Agra and Oudh, Punjab, Burma, Bihar and Orissa, Central Provinces and Berar,

Assam, N. W. Frontier, Ajmer-Merwara, Coarg, Beluchistan, Delhi, and Andaman and Nicobar Islands.

The sub-Himalayan countries form an elevated tract lying between the chief ridge of the Himalayas and the lower elevations which adjoin the plains of the Ganges and Indus. The plain of the Ganges is a vast alluvial flat, extending from the Bay of Bengal to the Punjab. Scattered over the agricultural districts, and massed in the great cities and towns, there are not less than 100,000,000 people. The Punjab occupies the N. portion. S. of the Punjab, and parallel with the river, the great sandy desert of the Indus extends for nearly 500 miles. The horse and camel alone can cross this desert, which is described in Hindu geography as "the region of death." The highlands of Northern Hindustan extend from the Vindhya Mountains as a base to the border of the Thur. The peninsular portion of India, S. of the Vindhya Mountains, is called by the natives the Deccan. The most remarkable geographical feature of the area is a central table-land—vast plateau—rising from 2,000 to 3,000 feet above the sea, and inclosed on all sides by lofty mountains, between which and the sea, on the E. and W., are narrow strips of low, flat country, divided into several districts. From the low country on the coast to the central table-land the mountains rise abruptly in a succession of gigantic terraces or steps, and hence the name of "Ghauts."

The vegetation of India is as varied as its soil and climate, passing from the flora of a tropical to that of an alpine region. The groves of palm that border the coast, and, in the interior, the umbrageous mango topes, are striking features of Indian scenery. Rice is the chief article of food in India, and is produced in all parts of the country in which irrigation is practised. Wheat, maize, opium, coffee, tea, cinchona, cotton, jute, and india rubber are among the cultivated products.

Hindustan proper may be said to have three well-marked seasons,—the cool, the hot, and the rainy. The cool months are November, December, January, and a part of February; the dry hot weather precedes, and the moist hot weather follows the periodical

India

rains. The climate of South India is greatly regulated by the monsoons: The central table-land is cool, dry, and healthy.

Two of the most striking peculiarities of the social condition of the Hindus are the iron institution of caste and the village system. The latter is very simple. A village in Hindustan does not mean a collection of houses at a particular spot, but corresponds rather to what is called a township in America. It is a district embracing an area of some hundreds or thousands of acres of land, and is under the administration of native functionaries, the principal of whom is the potail ("head inhabitant"), a kind of chief magistrate, who superintends the affairs of the community, settles disputes, attends to the police and the collection of taxes. Under this simple form of municipal government the inhabitants of the country have lived from time immemorial.

Hindu theology is contained in the ancient books of the Vedas, which inculcate the worship of the deities, Brahma, Vishnu, and Siva, the transmigration of souls, and their final absorption into the deity. Buddhism had also its origin in Hindustan, and Mohammedanism now extensively prevails. Philosophy, science, and the arts were cultivated from an early period by the Hindus, especially the domestic arts of weaving, dyeing, and working in metals and gems. They have never greatly excelled in music or painting; but in architecture they have arrived at considerable eminence. From the earliest records of history the nations of the Western World derived their merchandise from India.

In 1625 the first English settlement was made by a company of merchants in a small spot of the Coromandel coast of 5 square miles, transferred in 1653 to Madras. From the year 1750, when the warlike acquisition of territory commenced under Lord Clive, a succession of conquests, almost forced upon the British contrary to their inclinations, have now placed nearly all India under their sway. There is a free press and equal laws to all subjects. The revenue is derived almost entirely from a land tax. The rent assessments are very high, and bear hard on the cultivators of the soil; yet the condition of the population under

Indiana

British rule is greatly ameliorated from that under the unsteady governments and the incessant wars and conquests of previous periods of their history. India was one of the earliest fields of Christian missions. For a time the East India Company adopted the policy of excluding missionaries altogether from their territories; but since the beginning of the 19th century a great work has been entered on, in which all denominations are represented.

The supreme authority, both executive and legislative, is vested in a Governor-General in Council. The Governor-General or Viceroy usually holds office for five years and has power to overrule his Council in cases of emergency. The Council is composed of six ordinary members, all appointed, like the Governor-General, by the Crown for five years. For purposes of legislation this Council is expanded into an Imperial Council of 68 members, of whom 36 are nominated and 32 elected by various native and commercial interests. Delhi was made the capital in 1912.

Indiana, a State in the North Central Division of the North American Union; bounded by Ohio, Kentucky, Illinois, Michigan, and Lake Michigan; admitted to the Union Dec. 11, 1816; number of counties, 92; capital, Indianapolis; area, 36,350 square miles; pop. (1910) 2,700,876; (1920) 2,930,390; (1930) 3,238,503.

The surface of the State is generally level or undulating, ranging from 300 to 1,250 feet in altitude. The hills of the Ohio and Wabash river valleys inclose richly wooded bottom lands. The W. portion of the State is mostly prairie lands, interspersed with lakes, woodlands, and swamps.

The State is rich in mineral resources, especially coal. In the calendar year 1928 the value of all mineral products was \$98,584,000, coal leading with \$63,860,000 followed by coke, \$17,020,542, cement \$9,488,800 and clay products.

The soil varies from a deep black sand to clay loam, and is generally fertile. The climate is changeable and marked by extremes. Nearly one-eighth of the area is open prairie, and well adapted to agriculture. In the calendar year 1929 the estimated value

Indianapolis

of 67 principal crops was \$218,400,000. Corn led with \$97,656,000, followed by hay \$35,700,000, wheat \$31,048,000 and oats \$21,603,000. The value of livestock on Jan. 1, 1925 was \$156,262,000. In 1925 there were 195,786 farms totaling 19,915,000 acres valued at \$1,268,777,000. The U. S. Census estimate of 1925 reported the value of all farm property at \$1,931,742,000. Value of farm buildings \$426,964,000. The manufacturing industry in 1927 had 4,726 plants, and 644,678 wage earners; \$912,145,886 for wages; and yielded products valued at \$5,004,695,552. The leading industries were steel works and rolling mills followed by wood products, including furniture and wood containers. In 1926 the public school enrollment was 635,227. In private and parochial schools there were 57,952 pupils; in universities and colleges 22,283 students. For higher education there were 769 high schools and 26 colleges, universities and technical schools. Banking was promoted in 1929 by 986 institutions exclusive of Federal Reserve Banks, which had a combined capital of \$146,239,000, deposits of \$825,951,000 and resources of \$1,234,844,000.

The steam railroad mileage in 1928 was 7,173, operated by 17 systems.

The governor is elected for a term of four years, and receives a salary of \$8,000 per annum. Legislative sessions are held biennially, and are limited to 60 days each. The legislature has 50 members in the Senate and 100 in the House. There are 13 Representatives in Congress.

Indiana was part of the territory ceded to Great Britain, in 1763, by France. Early settlements had been made by the French at Corydon and Vincennes in 1702. In 1813 Corydon was made the capital, in 1816 Indiana was admitted to the Union, and in 1825 the capital was removed to Indianapolis. The present constitution was adopted in 1851, and in 1853 a free banking law was passed.

Indianapolis, a city, capital of the State of Indiana, and county seat of Marion Co., on the White River, 111 miles N. W. of Cincinnati, and 183 miles S. E. of Chicago. It is the State geographical center, and on the

Indian Mutiny

edge of a great natural gas region; area. 28 square miles; pop. (1920) 314,194; (1930) 364,161.

The most prominent public building is the State House, completed in 1887, occupying two squares, and costing \$2,000,000. The Court House, erected in 1876 at a cost of \$1,200,000, is another imposing structure. The principal manufactures include steam engines, machinery, foundry supplies and products, steel, glass, flour, tin plate, tile, bicycles, chain, paper, and pumps. There are eight grain elevators with a capacity of 1,000,000 bushels. The stockyard interests are important.

Indianapolis was first settled in 1819, became the seat of the State government in 1825, was incorporated as a town in 1836, and received its city charter in 1847. In 1891 it received a new charter prepared by representative citizens.

Indiana University, a coeducational non-sectarian institution at Bloomington, Ind.; founded in 1820.

Indian Civil Service, a branch of England's administration in India which includes the civil and judicial administration, the medical service, the forest department, and officers of the staff corps in civil employ.

Indian Mutiny. The British occupation of India had been largely aided by Sepoys, native troops, who from 1748, were enrolled under British officers in the service of the East India Company. At the close of Lord Dalhousie's sway, when the whole of India seemed to have been reduced either directly or indirectly under British rule, an extensive revolt of this trusted force occurred, occasioned by a number of circumstances, annexations, reforms, the abolition of various religious rites, etc. The revolt culminated when about this time a new pattern rifle—the Enfield—was first introduced into the Bengal army. This rifle was loaded with a greased cartridge, the end of which required to be bitten off. A report got abroad that the cartridges were to be soaked in cow and pork fat. The prejudices of Hindus and Mohammedans were thus equally struck at, and as this rumor, however raised, rapidly spread, the excited imagination of the Sepoys conceived a conspiracy on the part of the government to convert them forcibly to Christian-

ity, by compelling them to violate the laws of their own religion. While this grievance when understood, was promptly removed, the suspicions of the native troops were not allayed. On April 23, 1857 a company of native cavalry, stationed at Meerut, 32 miles from Delhi, refused to touch the cartridges served to them, though assured that they were free from the objectionable grease. They were arrested and 85 of them locked up. On the night of May 10, the native troops in the station, numbering 2,900, rose, liberated their comrades from prison, and released all the civil criminals, shot down the white officers, and murdered every white woman they could find, and then marched to Delhi, to arouse the native garrison there. The city fell into their hands, and until the following September, remained in their possession, and was the rallying point for the disaffected natives of the whole province.

The movement spread rapidly through the North-West provinces, to Oudh and Lower Bengal. Nana Sahib, a disinherited native prince was proclaimed leader, and soon became notorious for his ferocious cruelties.

The scenes were much alike at all the stations. The native troops slaughtered the officers, outraged the white women, and killed the children. At Cawnpore, the officers intrenched themselves, but after sustaining a siege for nineteen days, surrendered their position, on the Nana's solemn assurance of safety; they embarked, to the number of 450, in boats, but were captured. The men were shot down, and the women and children were driven into the prison, and common butchers were sent in, who hacked them to pieces, and threw their bodies into a well. At Lucknow, the whites also entrenched themselves in the residency, where they maintained themselves against overwhelming odds for 87 days, until relieved by Havelock.

It was not until June, 1858, that the revolt was finally put down, and the cities and strongholds again in the hands of the English.

Indian Ocean, a body of water bounded on the W. by Africa, on the N. by Asia, on the E. by Australia and the Australasian Islands. It is limited S. by the 40th parallel of latitude,

where it opens into the Antarctic Ocean. It is estimated to have an area of 27,500,000 square miles.

The mean depth of the Indian Ocean is estimated at about 2,300 fathoms, or slightly greater than that of the Atlantic. The greatest depths are in the E. part to the S. of the equator, where it is estimated that there are fully 50,000 square miles with a depth of over 3,000 fathoms.

The currents of the Indian Ocean are less constant than in the other great oceans, and are largely controlled by the direction and strength of the monsoons. Some of the most characteristic coral atolls and islands are to be found toward the central part of the Indian Ocean. Almost all the tropical shores are skirted by fringing and barrier reefs.

Indians, American, the original inhabitants of the Western hemisphere. The name Indian was bestowed by Columbus upon the copper-colored natives who greeted him when he first set foot on the soil of the New World, which he at that time supposed constituted a portion of India. The name has remained, and with the prefix "American" includes all the native races inhabiting the region from Mexico to the Arctic Ocean on the N., and to Terra del Fuego on the S.

All the American Indians, savage or semi-civilized, possess the same characteristics. All have the same long, lank hair, black as a raven's wing, brown or copper-colored complexion varying to almost white, heavy brows, dull sleepy eyes, seldom expressing any emotion, full and compressed lips, salient and dilated nose. The head is square or rounded, flattened or vertical occiput, with high cheek bones. In demeanor the Indian is haughty, taciturn and stoical. He is cunning, brave and ferocious in war and the most dreaded of all enemies. In temperament he is poetic and imaginative, and many of the chiefs have been noted for their eloquence and the beauty of their diction. The Eskimos or Innuits, the most northerly of the tribes, extend across the continent along the Polar Sea. Next below them are the allied Kenai and Athabascan groups, the former represented chiefly by the Yellow Knife or Atna tribe on the Yukon River. The Athabascans are

chiefly found between Hudson's Bay and the Rocky Mountains, but include besides the Chippeways, Coppermine, Dogrib, and Beaver Indians; the Tlatskanai, Unkwa, and Hoopah Indians of the Oregon coast; the Navajo tribe of the Highlands of New Mexico; the Apaches, ranging from the western Colorado to Chihuahua and Coahuila; and the Lipani, north of the mouth of the Rio Grande del Norte. Canada and the United States east of the Mississippi were formerly inhabited by the Algonquin-Lenappe and the Iroquois, generally at war with each other. The extreme west of the Algonquin region was occupied by the Black-foot Indians; the Ojibeways held the shores of Lake Superior; south and west of Hudson's Bay were the Crees. The Leni-Lenappe section of the Algonquin-Lenappe group comprised the five nations of the Delawares, including the Mohicans. The Iroquois included the Senecas, Cayugas, Onondagas, Oneidas, and Mohawks, who formed a league of five nations, afterwards joined by the Tuscaroras. The Hurons were of the Iroquois group. The Dacotah or Sioux group occupied the plains between the Rocky Mountains and the Mississippi as far south as Arkansas, and included the Assiniboinis, Winnepegs, Iowas, Omahas, Osages, Kansas, Arkansas, Menitarees, Crows, and Mandans. West of the Mississippi also were the Pawnees and Riccaras about the Nebraska or Platte River, and to the south-east were the Choctaws and Chickasaws. In the Rocky Mountain regions were the Shoshone or Snake Indians, including the Comanches and others. The Cherokee tribes, which inhabited South and North Carolina, formed a detached group, and the Texas Indians were comprised in many small and diverse tribes. Below these, in New Mexico, a more advanced and distinct family is found called Moquis or Pueblo Indians. Of the numerous families occupying Mexico the Nahuatlis or Aztecs were the most powerful and civilized. The Otomis, speaking a peculiar language, were also a numerous people in Mexico. In Central America the predominating family was the Maya, including the Quichés, Kachiquels, etc. Portions of the Aztec tribes were also found in Central America. In South

America the leading and more advanced families were those that made up the Peruvian Empire, among which the Inca race and the Aymaras were the chief. The Araucanians, to the south of these, in Chile, had a considerable resemblance to the Algonquins and Iroquois of North America. The remaining portions of the continent, including the great alluvial tracts of the Atlantic slope, were principally occupied by the Guaranis; but along its northern coast were found the Caribs, who spread also over the Antilles and most of the West Indian Islands. In the extreme southern part of the continent live the tall Patagonians or Tehuelches, and squalid families in some respects resembling the more debased Australians.

The early history of the United States is full of accounts of wars with the Indians, who were continually antagonized by the encroachments of the "white faces." The most important of these conflicts were the Pequot War (1637); King Philip's War (1675); Wars of the Six Nations; Black Hawk War (1832); and the Seminole War (1835-1839). These troubles are practically ended; the United States Indians now, mostly live on tribal reservations, and are gradually becoming civilized.

The entire Indian population of the United States in 1916, according to the annual report of the Commissioner of Indian Affairs, was 335,753, of whom 101,519 were members of the five civilized tribes, including 75,532 full bloods, 23,405 freedmen, and 2,582 intermarried whites. The largest numbers were in Oklahoma, 118,996, and Arizona, 44,436. The Indians are governed through the medium of tribal legislatures and executives, supervised by the United States Government, except where local agencies render this impracticable. The appropriation by Congress for the Indian service for 1915-16 was \$9,383,715. This sum is disbursed for current and continued expenses, treaty obligations, miscellaneous, support and gratuities, the support of schools, payment for lands, interest on trust funds and incidental expenses. It costs about \$2,000,000 a year to maintain the Indian schools and \$3,000,000 for treaty obligations.

Indian Summer, a period of mild summer weather which generally occurs toward the end of autumn in the United States.

Indian Territory, since Nov. 16, 1907, incorporated as part of the State of Oklahoma, comprised the region set apart by Congress in 1834 to contain the Cherokee, Chickasaw, Choctaw, Creek, Seminole and minor Indian reservations. It had an area of 31,000 square miles, and (1900) pop. 391,960. Coal is the principal mineral mined, and there are valuable deposits of gold and silver. The soil is fertile and agriculture is well developed. The cotton crop in 1900 amounted to 119,939 bales. In 1900 there were 789 manufacturing establishments, employing \$2,624,265 capital and 1,714 persons; and having an annual output valued at \$3,892,181. The principal articles of manufacture include flour and grist, cottonseed oil, cotton goods, lumber and timber products, saddlery and harness, artificial ice, clothing, millinery, railroad cars, boots, and shoes.

There are no general school statistics, but the Five Nations, the United States government, and religious societies support over 400 schools. There were in 1899, 4 public high and 10 private secondary schools, the Indian University at Bacone, and Henry Kendall College at Muskogee.

Each of the five great nations was allowed self-government under officers chosen by popular election. Each nation maintained educational institutions in addition to those supported by the United States government, and by religious organizations. The United States Treasury holds trust funds for the Territory, exceeding \$8,000,000, the interest of which is paid regularly to the national treasuries.

The Territory was included in the Louisiana Purchase of 1803, and in 1832 was set aside by the United States government as a permanent home for Indian tribes E. of the Mississippi. In 1834 Congress set aside reservations for the Creek, Cherokees, Chickasaws, and Choctaws, and later these were followed by the Seminoles, Sacs, Foxes, Comanches, Modocs, Nez-Perces, and numerous smaller tribes. In 1866 the Creeks ceded the W. part of their territory to the United States,

and the Seminoles all of theirs, and in 1890 this land, together with what was known as the "public lands" was erected into the Territory of Oklahoma. On Mar. 4, 1906, the two Territories were admitted to the Union as the STATE OF OKLAHOMA (*q. v.*).

India Rubber. See CAOUTCHOUC.

Indicator, (1) an instrument for ascertaining and recording the pressure of steam in the cylinder of a steam-engine, in contradistinction to the steam-gauge, which shows the pressure of the steam in the boiler. (2) An apparatus or appliance in a telegraph for giving signals or on which messages are recorded, as the dial and index hand of the alphabetic telegraph. (3) A genus of African birds, the honey-guides or honey-guide cuckoos.

Indictment, in law, a written accusation of one or more persons of a crime or misdemeanor, preferred to and presented on oath by a grand jury. Properly, an indictment is not so called till it has been found a true bill by the grand jury, up to which time it is called a bill.

Indies, the name given by Columbus to his first discoveries in America, which he thought at the time were a part of India. These lands were afterward termed the WEST INDIES, which name the islands still bear. See WEST INDIES.

Indies, East. See EAST INDIES.

Indigestion. See DYSPEPSIA.

Indigo, a vegetable dyestuff, yielding a beautiful and very durable blue dye. It is obtained from tropical and sub-tropical plants. Indigo is tasteless, odorless, and of an intense blue color, passing into purple. It is insoluble in water.

Indigo Bird, a North American bird of the finch family, a native of the United States, as far N. as the Missouri, which it visits in summer, and of Central America, where it spends the winter. It is about 5½ inches in length, of a beautiful blue color, variously tinged and shaded. It frequents open places on the edges of woods, and has a very sweet song.

Indra, a Hindu deity worshipped in the Vedic period, but popular also in the Epic and Puranic periods. He is sometimes represented with four arms and hands, with two of which he holds

a lance, the third wields a thunderbolt, and the fourth is empty; at other times as a white man sitting on an elephant, having a thunderbolt in his right hand, and a bow in his left. When painted, he is covered with eyes.

Induced Currents, electric currents developed in conductors in proximity to other conductors traversed by intermittent or fluctuating currents; also, electric currents developed in conductors moving in the field of a magnet, or in conductors within the field of a moving magnet.

Induction, the act of inducing or bringing in; introduction; a bringing in or putting into an office. In electricity, the action which electrified bodies exert at a distance on bodies in a natural state. In magnetism, the action which magnetized bodies exert at a distance on bodies in a natural state.

Induction Coil, in electrical machinery, a contrivance which consists essentially of two separate coils of insulated wire wound round a soft iron core.

Indulgence, in Roman Catholic theology is defined by a writer of that church, as a release by the power of the keys, committed to the church, of the debt of temporal punishment, which may remain due upon account of our sins, after the sins themselves, as to the guilt and eternal punishment, have been already remitted by repentance and confession. Indulgences may be plenary, remitting the whole penalty, or partial, remitting a part of it. Pope Pius VI. taught that an indulgence would avail to release a soul from purgatory. The sale of indulgences by Tetzel in the 16th century was denounced by Luther and led to the Reformation.

Indulgence, Declaration of, the proclamation of James II. of England, in 1687, by which he promised to suspend all laws which tended to force the consciences of his subjects. His real aim was, of course, merely to relieve the Roman Catholics; hence the declaration was very unpopular. Two similar indulgences in English history were those issued by Charles II. in 1662 and 1672, both of which were equally displeasing to the dissenters alike in England and Scotland, who declined to share their toleration with their Roman Catholic fellow-subjects.

Indus, one of the great rivers of Asia, which rises in Tibet, on the N. of the mountain Kaimas, celebrated in the mythology of the Hindus. Its traffic value is small.

Industrial Schools, a term used to designate schools in which industrial arts are taught.

Industrial Workers of the World, an organization of working men and women that came into prominence during the protracted mill strikes at Lawrence, Mass., in 1912, and at Paterson, N. J., in 1913. They stand for the abolition of the wage system and a radical change in the conduct of industrial enterprises; urge the practice of SABOTAGE (*q. v.*), as a first resort under their demands and a strike as the second; declare for a universal union in each industry and the merging of all unions into an "industrial democracy"; and are wholly distinct from the American Federation of Labor. In the summer of 1917 members of the organization fomented serious trouble in several of the Western and Pacific States, undertaking to force miners and ship-builders to go on strike, when the latter were urgently needed by the Government for the great ship-construction plans. Many arrests were made.

Infallibility, a quality or state of freedom or exemption from error. It is an attribute claimed for the head of the Roman Catholic Church.

Infant, in law, persons who have not attained the age of twenty-one years, and are under guardianship. In general, contracts made by infants are not binding, except for necessities suited to their state in life. Being an infant is no bar to criminal proceedings; but young persons are not punished for offences if they have not knowledge and discretion to distinguish them to be such. Infants require the consent of parents or guardians to marry. The jurisdiction in respect to infants is generally vested in either probate or orphans' courts.

Infante, the title given in Spain and Portugal to the princes of the royal family, the corresponding title of Infanta being given to the princesses.

Infanticide, the murder of an infant born alive; the killing of a

Infantile Paralysis

young or newly-born child. The practice of destroying a portion of the offspring—in the majority of cases, the female children—among certain nations or tribes, appeared in the earliest times, and still lingers among some undeveloped races. In Sparta it was used as one of the means of securing what Spencer calls the "survival of the fittest," and was defended by Plato and Aristotle.

Infantile Paralysis (*anterior poliomyelitis*), a mysterious malady that developed suddenly in Central New England in May, 1910, spread rapidly through the summer and autumn, and disappeared with the advent of frost. It attacked both the young and the aged, both people living under wholesome conditions and those living in squalor, and it baffled the efforts of Boards of Health to check it and of medical experts to comprehend it. Over 20,000 cases were reported during the summer, and, while the mortality was about 10 per cent., at least 75 per cent. of little victims were more or less crippled for life. Dr. Simon Flexner, of the Rockefeller Institute, announced his opinion that the malady was epidemic, contagious, or at least highly communicable, and seasonal, but he had not been able to discover the infectious agent. In 1916 the malady broke out again in several States.

Infant Schools, a means of educating very young children. Oberlin may be regarded as the founder of infant schools. The most successful system is the kindergarten (q. v.).

Infection, a term which has been vaguely used for the contamination of the human body by morbid particles, whether there has or has not been contact with a person similarly affected, but more specifically applied to the contamination of the atmosphere or water by such agency, and through them of the human body.

Infidel, from the Christian standpoint, one who does not believe in the Christian faith. From the standpoint of the Mohammedan or other non-Christian faiths, an infidel is one who does not believe in the religion of the person using the term "infidel."

Infinite, not finite; having no bounds or limits; without limit; un-

Ingalls

bounded; boundless; not limited or circumscribed; applied to time, space, the Supreme Being or His attributes; as, The goodness of God is infinite.

Inflammation, a morbid state of the whole or any part of the system, characterized by heat, redness, and pain, owing to a stoppage of function in the microscopic elements of the involved tissues, or to changes in the blood-vessels and blood, and exudation of liquor sanguinis, with permeation of white blood corpuscles, without rupture of the vessels, into the contiguous parts, or to altered nutrition of the tissue.

Influenza, a specific catarrhal inflammation of the mucous membranes of the air passages, contagious, and often epidemic. See GRIP.

Information, in criminal law, a substitute for an ordinary indictment filed by the prosecuting attorney in certain cases of misdemeanor. Also, a written statement or declaration made usually on oath before a magistrate, previous to the issuing of a summons or warrant against a person charged with a crime, or an offense punishable summarily.

Infusion, a pouring in or into; that which is infused or introduced; suggestion. In pharmacy, a solution of some of the principles of vegetables, generally in water, used as a medicine, but sometimes in other vehicles.

Infusoria, the name first given by Otto Frederick Muller to the mostly microscopic animalcula developed in organic infusions. A drop of water from a weedy or other pool or ditch, viewed by the microscope, contains them in countless numbers. They have neither vessels nor nerves, but possess internal spherical cavities. They move by means of cilia or variable processes formed of the substance of the body, true feet being absent. They occur everywhere, in salt as well as in fresh water.

Ingalls, John James, an American lawyer; born in Middletown, Mass., Dec. 29, 1833; was graduated at Williams College in 1855 and admitted to the bar in 1857; settled in Atchison, Kan., in 1858; became secretary of the Kansas Senate in 1861; was elected a member of that body in 1862; and was United States Senator

Ingalls

in 1873-1891, during which time he attained wide reputation as a public speaker. He was also president pro tem. of the Senate during the last three years of his service. He died in Las Vegas, New Mexico, Aug. 16, 1900.

Ingalls, Rufus, an American soldier; born in 1820. He was graduated at the United States Military Academy in 1843, fought in the Mexican War and in the Civil War, served with distinction in the Army of the Potomac. He became quartermaster-general in 1882 and died in 1893.

Ingelow, Jean, an English poet and story-writer; born in Boston, Lincolnshire, in 1820. Her first published work appeared anonymously in 1850, but not till the publication of "Poems" in 1863 did Miss Ingelow become famous. This volume won the enthusiastic praise of critics and the instant approval of the public and has passed through many editions. She wrote a great many stories and novels. Miss Ingelow lived in London, engaged in benevolent and charitable works, and died in Kensington, July 20, 1897. Her works have been even more popular in the United States than in England.

Ingersoll, Charles Jared, an American author; born in Philadelphia, Pa., Oct. 3, 1782; son of Jared Ingersoll, Jr.; was a member of Congress in 1813-1815 and 1841-1847; and United States district attorney in 1815-1829. He died in Philadelphia, Pa., May 14, 1862.

Ingersoll, Ernest, an American naturalist; born in Monroe, Mich., March 13, 1852; was educated at Oberlin College and the Harvard Museum of Comparative Zoölogy; employed on the Hayden Survey and the United States Fish Commission; has written several books on natural history and travel; and is a popular lecturer.

Ingersoll, Jared, an American jurist; born in Milford, Conn., in 1722; was graduated at Yale College in 1742; commissioned stamp-agent for Connecticut in 1765. When the people arose against the law Ingersoll attempted to persuade the citizens of New Haven to accept it, but was compelled to resign his office. He was made admiralty judge of the Middle District in 1770. He was the author

Ingraham

of a valuable pamphlet on the "Stamp Act" (1766). He died in New Haven, Conn., in August, 1781.

Ingersoll, Jared, an American jurist; born in Connecticut, in 1749; son of Jared Ingersoll; was graduated at Yale College in 1766; attained eminence in his profession in Philadelphia; was a member of Congress in 1780-1781, a delegate to the Convention which drew up the Federal Constitution in 1787; an unsuccessful candidate for Vice-President of the United States in 1812; and twice attorney-general of Pennsylvania. He died in Philadelphia, Pa., Oct. 31, 1822.

Ingersoll, Robert Green, an American lawyer; born in Dresden, N. Y., Aug. 11, 1833; was admitted to the bar in 1854; soon became distinguished in the courts and in Democratic politics as an orator; recruited the 11th Illinois Cavalry in 1862, and entered the army as its colonel. On Nov. 28, 1862, while trying with a force of 600 men to intercept a Confederate raiding body he was captured by a force of 10,000 men, but was soon paroled and given command of a camp in St. Louis. He soon afterward resigned. After the war he became a Republican; was made attorney-general of Illinois in 1866; was a delegate to the Republican National Convention in 1876 and there nominated for president James G. Blaine, whom he termed "the plumed knight." He was prominent in politics for several years, and had he not given strong expression to his views as an agnostic he would doubtless have been honored with high offices. He settled in New York city in 1882 and practised law there till his death. He died in Dobbs Ferry, N. Y., July 21, 1899.

Ingot, a cast mass of steel from the crucible; a cast mass of gold or silver, more or less pure, for assaying; a cast block of gold, silver, or a properly proportioned alloy of either, for coinage, or for working into other forms, as watch cases, etc.

Ingraham, Joseph Holt, an American author; born in Portland, Me., in 1800; received a collegiate education; was ordained a Protestant Episcopal clergyman; became widely known through his writings. He died in Holly Springs, Miss., in December, 1860.

Ingraham, Prentiss, an American author; born in Adams co., Miss., Dec. 22, 1843; received an academic education; served in the Civil War in the Confederate army, and was wounded and taken prisoner at Port Hudson. After the war he traveled extensively in the Orient, and began his literary career in 1870. D. in 1904.

Ingres, Jean Dominique-Auguste, a French historical painter; born in Montauban, in 1780. Ingres occupies a middle place between the classical and romantic schools, and is chiefly remarkable for correct design, ideal composition, and sober painting. He died in 1867.

Ingrians, a Northern European people, now in process of absorption by Russia. They are said to be of Finnish stock and lost their independence in the 14th century or perhaps earlier.

Inhalation, a method of applying remedial agents to the respiratory tract, whereby these substances in a gaseous or atomized form are brought in contact with the mucous membrane of the nose, mouth, throat, windpipe, and air tubes and air cells of the lungs.

Inhaling Tube, a device for strengthening the breathing apparatus of consumptives and those afflicted with weak lungs.

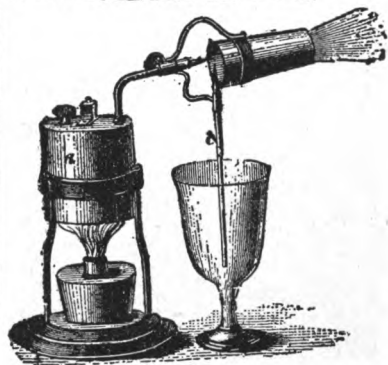
Inia, a toothed fresh water Cetacean, not unlike a dolphin. It is found in some of the upper tributaries of the Amazon, and in the lakes near the Cordilleras. It measures about eight feet in length, has a long cylindrical snout with stiff hairs, and a very slight dorsal fin.

Injunction, a writ or process granted by a court of equity, and in some cases under statutes by a court of law, whereby a party is required to do, or to refrain from doing, certain acts. In the United States, the writ of injunction, as resorted to in labor disputes, has occasioned much controversy. Injunctions issued against strikers were alleged to "convert innocent acts into a crime."

Ink, a liquor or pigment used for writing or printing. It varies much in the details of its composition; all ordinary writing inks owe their properties to the presence of gallate or tan-

nate of iron held in suspension by means of gum. Sympathetic inks were formerly used in secret correspondence, but they have now ceased to be thus employed, as none of them will withstand the action of a strong heat. The characters written by these inks do not become visible until they are treated with some other solution or exposed to the action of heat.

Inkbag, a gland found in the Cephalopoda. It is tough and fibrous, with a thin outer coat. The animal discharges the contents of the bag through a duct into the water when it wishes to conceal itself or escape from an enemy.



INHALING TUBES.

Inkermann, a village of Russia, in the S. of the Crimea. During the Crimean war, the Russians, nearly 50,000 strong, assailed the weakest part of the English position facing the harbor of Balaklava and the caverns of Inkermann, Nov. 5, 1854. The French

came to the support of the English, and the Russians were driven back with great slaughter.

Inlaying, the art of decorating flat surfaces by the insertion of materials differing from the ground or body in which they are inlaid, in color, texture, or other qualities.

Inn, a river of Germany, the most important Alpine affluent of the Danube.

Inman, Henry, artist; born at Utica, N. Y., Oct. 20, 1801; died Jan. 17, 1846. His portrait, genre, and landscape paintings, are celebrated.

Inness, George, an American painter; born in Newburg, N. Y., May 1, 1825; studied painting in New York and Europe; resided in Italy in 1871-1875. His pictures are noted for the accuracy with which they represent the American climate and the aspects of American scenery. He died in 1894.

Innocent, the name of several Popes.

Innocent III. (Lothario Conti), one of the most eminent of the Roman pontiffs; born in Anagni, in 1161. He succeeded Celestine III. in 1198. His first care was to recover and secure such portion of the domains of the Holy See as were in the hands of usurpers. He applied himself earnestly to the improvement of the administration of justice and expected that all great questions, civil and ecclesiastical, should be decided by himself. He put France under an interdict, because Philip Augustus divorced his queen, Ingeburga. When John, King of England, refused to confirm the election of Stephen Langton, as archbishop of Canterbury, Innocent laid the kingdom under a ban and, in 1212, formally deposed John, and instigated the King of France to attack England. John was obliged to submit, resigned his territories to Rome, and received them as a papal fief. In 1210 the Pope excommunicated the Emperor Otho IV. Innocent abolished the Roman Senate and Consulate, and made himself absolute in his estates, which extended from the Adriatic to the Mediterranean. Innocent enforced purity of morals in the clergy and was himself irreproachable in private life. In 1215 he convoked the fourth gen-

eral council of the Lateran. He died in 1216.

Innocents' Day, the English name for the feast celebrated on Dec. 28, to commemorate the massacre of the children of Bethlehem by Herod, in the hope of killing Jesus. In the Greek Church the feast is celebrated on Dec. 29, and is known as the Feast of the 14,000 Holy Children.

Innsbruck, a city of Austria, 109 miles from Munich. It is a beautiful place. The Franciscan Church, or Hofkirche, built in the Renaissance style in 1553-1563, contains a beautiful and elaborate monument to the Emperor Maximilian I. In the same church are monuments to Andreas Hofer and his comrades Speckbacher and Haspinger, and to the Tyrolese who fell in the wars against France (1796-1809). Pop. (Mar. 7, 1923) 56,305, including suburbs.

Innuendo, an indirect or oblique hint or intimation; an insinuation. Also a law term, most used in declarations, and other pleadings, and the office of this word is only to declare and ascertain the person or thing, which was named uncertain before.

Innuity, the native name of the people occupying the entire coast line of Alaska, with the outlying islands along the Arctic coast to Bering Strait, S. to the Alaska Peninsula, E. and N. along the Pacific coast to Mount St. Elias, with the exception of a small territory on Cook's Inlet and at the mouth of Copper river, where the Tinnah from the interior have forced their way to the coast. The Innuity of Alaska are a much finer race physically than the Eskimo of Greenland and Lapland. They are tall and muscular, many of them being 6 feet and over in height. They have small black eyes, high cheek bones, large mouths, thick lips, coarse brown hair, and fresh yellow complexions. Occupying the coast line, they are bold navigators and skilled fishermen and sea hunters. With the exception of those in Southern Alaska, they are barbarians, never having had civilizing, education, or religious advantages.

Inoculation, the act, or operation of communicating a disease to the bodily frame by introducing, by one or more punctures in the skin, or other-

wise, the specific poison by which it is produced; also the introduction in such a manner of varilous matter into the system.

Inorganic Chemistry, the chemistry of inorganic or unorganized bodies. Its aim is to examine into the general laws or rules which regulate the formation of such metallic bodies, and to determine the action of one upon another.

Inouye, Kaoru, Marquis, a Japanese statesman; born in Choshu in 1839. After a visit to Europe, he urged the adoption of Western civilization; and in 1904 commanded the naval station at Yokosuka. He died Sept. 1, 1915.

Inowrazlaw, a town in Prussian Posen, 21 miles S. W. of Thorn and 12 miles from the Prussian Poland boundary. It is in the most fertile part of the province, is largely engaged in iron founding and the manufacture of machinery and chemicals; has salt works and a sulphur mine in its vicinity; and has been a Prussian possession since 1772. Pop. about 30,000.

Inquisition, in the history of the Roman Catholic Church, a tribunal for searching out, inquiring into, and condemning offenses against the canon law, especially heresy. It was resolved on at a synod held at Toulouse, in 1229, under Gregory IX., and was formally established by him in 1233. The synod ordered that in every parish a priest and several respectable laymen should be appointed to search for heretics, and bring them before the bishops. The tribunal was called the Holy Office, or the Holy Inquisition. Its judges encouraged informers, concealing their names from the person accused, who was urged to make a complete confession. Torture was also used to extract evidence.

In law: (1) A judicial inquiry, investigation, or examination; an inquest. (2) The verdict of a petty jury under a Writ of Inquiry; also where the court requires a particular fact certified, or requires the sheriff to do certain acts in furtherance of its judgment.

Inquisitor, in church history, a person appointed to search out latent heresy. The name first appears in the Theodosian Code, A. D. 382; their

search being chiefly directed against the Manichæans. During the crusade against the Albigenes, early in the 13th century, Innocent III. had sent out legates to search out and punish these separatists. These were also called inquisitors.

Insanity, a more or less impaired condition of any or all of the mental functions involving the intellect, emotion, or will. The phenomena of acute intoxication or fever, though analogous in form to those of insanity, being temporary are not usually regarded as symptomatic of mental disease. Comatose conditions, somnambulism, eccentricity, hysteria, transitory brain excitements due to religious or other strong emotions or due to other adequate causes must also be excluded. An insane man is unfit to do his work or manage his affairs, or mingle in the society of his fellow-men. In some cases he is unsafe to himself or to society.

The United States has spent enormous sums to make the best provision possible for the mentally afflicted. In most of the States all citizens, rich and poor alike, have the privilege of using the State asylums. The members of the Society of Friends in the State of Pennsylvania were the first to make philanthropic efforts to provide "hospital" accommodations for the insane. One of the most original asylums in the world in its plan is that at Kankakee, Ill. It has 1,600 patients, and consists of about 20 houses laid out on the two sides of a "street," forming in fact an insane town, all of whose inhabitants resort four times a day to a central dining-room or restaurant for their meals, and where a central ward for the sick, and the administrative buildings are also situated. The proportion of insanity was much greater among the whites than among the negroes, and very much greater among the foreign born than among the native born.

Inscriptions, the name given to records, not of the nature of a book, which are engraved or inscribed on stone, metal, clay, and similar materials, and are in many cases the sole sources of our knowledge of ancient history and of early languages; even when MSS. have been preserved by copyists, inscriptions, which preserve

Insecta

the original forms of the letters, are of supreme palaeographical importance. All the books of the Phœnicians, Sabaëans, Etruscans, Babylonians, Assyrians, Numidians, and Iberians have perished; hence a considerable portion of our knowledge of early Oriental history is derived solely from inscriptions.

In Greenland, on the shores of Baffin Bay and Davis Strait, a few genuine Runic inscriptions have been discovered. They probably date from the 11th and 12th centuries, and were doubtless executed by Icelandic colonists or explorers. Records, variously conjectured to be Runic, Punic, Celtiberic, or Numidian, have also been found in the United States, notably on the Dighton Rock in Massachusetts, in the island of Monhegan off the coast of Maine, in the Grave Creek Mound in West Virginia, and elsewhere. They prove, however, on examination, to be either natural markings on the rock, or the half-effaced pictorial records of Indian tribes, or even inscriptions by early European colonists. Very different are the numerous inscriptions on the walls of the palaces and temples in the ruined cities of Yucatan, Honduras, Mexico, and Guatemala. They are written in unknown characters, which appear to constitute a system of hieroglyphic or pictorial writing, akin probably to that of the Aztec MSS., which as yet have been only imperfectly deciphered.

Insecta, insects; a class described as including, formerly, among other animals, the centipedes and spiders. Now these are made distinct classes, and the **Insecta** confined to those arthropodous animals which have three pairs of legs affixed to the thorax which is distinctly separated from the head and the abdomen. There are compound and simple eyes. In the highest orders there are four wings; in another order, but two; and in several more the wings are rudimentary or totally absent. There is one pair of antennæ. The respiration is by tracheæ. Of the 13 segments, of which a typical insect consists, one constitutes the head, three the thorax, and nine the abdomen. The cutaneous skeleton is composed of chitine. There is generally a more or less complete metamorphosis. **Insects** exist in all

Insectivorous

countries. The species existing may be half a million, those known more than 200,000.

Insecticide, a substance used to kill insects. Pyrethrum, Persian insect powder is one of the best.

Insectivorous or Carnivorous

Plants, plants which deviate from the usual plant method of obtaining nutriment from the soil and the air, and feed on insects which they capture by ingenious contrivances. Among the insect-catching plants, one of the most notable is the Venus's fly-trap of the Carolinas, the separated halves of whose leaves close instantly when their surfaces, which bear irritable hairs, are touched. The edges bear 12 to 20 long teeth, which closely interlock, the whole forming a live insect trap. The insect which has caused the closure is held till its soft parts are digested and its juices are absorbed by the leaf, when the latter opens again. A digestive secretion is thrown out, and the closed leaf acts as a true stomach, the work of digestion going on for a week or two. Of a different character are the pitcher-plants, of which there are many kinds in various parts of the world. In these the leaf takes the form of a vase, with a hood at the top by which the entrance may be closed. Water gathers within these hollow leaves. In some species sweet drops are found on the outside of the leaf leading upward to the mouth, within which other honeyed drops appear. On the hood and within the pitcher are stiff hairs or bristles pointing downward, and acting to prevent the prey from crawling out again. The California pitcher-plant has a bright-colored appendage hanging from the opening as a lure to the insect. In some cases the whole leaf is converted into a pitcher. In others the pitcher is formed of the tip of the leaf, being attached to a bare extension of the midrib, which is so bent as to hold it upright. In these small cups insects are caught in large numbers. Some plants form their traps by uniting the bases of opposite leaves. Such is the case with the cup-plant of the Western prairies. Dead insects have been found in these cups, and have probably been digested. The teasel has a similar structure. The bladderworts, of which there are about 160 species,

are aquatic plants which bear curious little sacs, which float in the water. These have open mouths which are lined with bristles, and which, while offering ready entrance to minute insects, prevent their return. Various other adaptations of the leaf, more or less similar to those named, exist, and in many plants there are belts of sticky material on the branches, as in the catchfly and in a species of wiregrass. To what extent these adaptations are useful to the plant is not yet fully settled. When grown in the greenhouse these plants are found to flourish without insect food. But in nature they are usually found in poor soil, and some of them almost without roots. All the facts taken into consideration leave no doubt that many plants really feed on animal food, and thus in a measure depart from the ordinary plant economy and take on a function of the animal kingdom.

Insignia, the name given to all outward marks of power and dignity. The name of insignia is also applied to the decorations worn by the different orders of merit.

Inspiration, in scripture and theology, an extraordinary influence exerted by the Holy Spirit on certain teachers and writers so as to illuminate their understandings, raise and purify their moral natures, and impart a certain divine element to their utterances, whether oral or written.

Insterburg (the burg on the Inster), a town in Prussia, 57 miles by railway E. of Königsberg; manufactures machinery, shoes, cement, leather, and beer; and has a considerable trade in cereals, vegetables, flax, linseed, and wood. The town was founded in the 14th century by the Teutonic Knights; was besieged by the Swedes in 1679; suffered severely from a fire in 1690; and was nearly wiped out by a pestilence in 1710-11. Pop. about 30,000.

Instinct, a natural blind impulse to certain actions, without having any end in view, without deliberation, and very often without any conception of what we do; instinct is distinguished from reason in that it acts without teaching, either from instruction, or

from experience. In general we find that instinct and reason prevail in an animal in the inverse ratio to each other.

Institute, a scientific body; a society or body established under certain rules or regulations for the promotion or furtherance of some particular object; a literary or philosophical society or association.

Institution System, the system of missionary operations which directs its main effort to the founding and maintenance of an institution in place of street preaching.

Institutional Church, The, a Church which aims to reach all classes of people by a system of free pews and active ministration to the wants of its particular community. To quote from the platform of the Open and Institutional Church League: "The open and institutional church aims to save all men, and all of the man by all means, abolishing, so far as possible, the distinction between the religious and secular, and sanctifying all days and all means to the great end of saving the world for Christ. While the open and institutional church is known by its spirit of ministration rather than by any specific methods of expressing that spirit, it stands for open church doors for every day and all the day, free seats, a plurality of Christian workers, the personal activity of all church members, a ministry to all the community through educational, reformatory and philanthropic channels, to the end that men may be won to Christ and His service, that the Church may be brought back to the simplicity and comprehensiveness of its primitive life." Among the various features of the institutional church are a gymnasium, reading room, classes of instruction in sewing, carpentry, music, etc., and a system of volunteer offerings for the support of the work. There are an increasing number of institutional churches throughout the United States.

Instrument, in law, a document or writing, as the means of giving formal expression to an act; a writing expressive of some act, contract, process, or proceeding, as a deed, a contract, a writ, etc. In music, any mechanical contrivance for the production of sound. The musical instruments

employed are divided into the following classes: Stringed, wind, and pulsatile.

Insulator, in electricity, a non-conductor of electricity so placed as to insulate a body. In thermotics, a non-conductor of heat placed so as to prevent the passage of heat to or from a body.

Insurance, the act of insuring against damage or loss; a contract by which a company, in consideration of a sum of money paid, called a premium, becomes bound to indemnify the insured or his representatives against loss by certain risks, as fire, shipwrecks, etc.

Insurrection. The Constitution of the United States, Art. 1, sec. 8, clause 15, gives Congress the power to call forth the militia to suppress insurrections. Acts were passed in 1792, 1795, and 1807, giving the President power to call forth the militia when notified by an associate judge of the Supreme Court or a district judge that the execution of the laws is obstructed, and on application of a Legislature or a governor, when the Legislature could not be convened and to employ also the land and naval forces of the United States. The Whisky Insurrection was directed against the Federal authority and the President employed force to suppress it on notification by the Federal judge. During the "Buckshot War" (1838) between the Whigs and Democrats in Pennsylvania, the governor of that State asked for assistance, but it was refused. The governor of Rhode Island made a similar application during the Dorr Rebellion and the regulars were held ready for action, but their aid proved unnecessary. These last two cases came under Art. 4, sec. 4, of the Federal Constitution, which provides "that the United States shall protect" each State on application of the Legislature, or of the executive (when the Legislature cannot be convened), against domestic violence.

When the Civil War broke out, the President was obliged to take prompt steps in calling out the militia, though no application had been made to him as required by the acts of 1792 and 1795. His action was justified by Art. 2, sec. 3, of the Constitution, providing that "he shall take care that the laws

be faithfully executed," but Congress on Aug. 6, 1861, formally validated and made legal all Lincoln's previous acts, proclamations and orders. The "Force Bill" of April 20, 1871, gave the President power to call forth the militia and to employ the forces of the United States to suppress disorders intended to deprive any portion of the people of their constitutional rights, even if the State authorities should be unwilling to restore order. During the reconstruction period National troops were called for in all the States that had seceded, except Georgia and Florida, to preserve the peace, which had been disturbed by attempts to overthrow the newly established republican administrations in those States. They were withdrawn by President Hayes.

Intellect, the thinking part of the mental constitution. Mind is made up of three elementary constituents—emotion, volition, and intelligence. When we experience pleasure or pain we are said to feel; when we act to obtain the one or escape the other, we exert our will; when we remember, compare, or reason, intelligence is brought into play. The powers or properties of the intellect have been variously classified.

Intercalar, or **Intercalary**, in chronology, used of months, or shorter periods of time, inserted into the calendar to make the astronomical and civil years more nearly coincide.

Interdict, in old Roman civil law, a decree of the prætor pronounced between two litigants sometimes enjoining, but more frequently prohibiting, something to be done.

In Roman Catholic ecclesiastical law and history, an ecclesiastical censure by which persons are debarred from "the use of certain sacraments, from all the divine offices, and from Christian burial." It is a commingling and development of the New Testament excommunication with the interdict of the Roman prætor. It could be directed against the most prominent individuals, or against localities as small as a parish or as large as an empire. In 1606 Pope Paul V. placed the republic of Venice under an interdict which was met by determined and effectual resistance from the government, and soon afterward interdicts fell into disuse.

Interest

Interest, an allowance made for the use of borrowed money. Interest is either simple or compound. Simple interest is the interest on the principal during the time of the loan. Compound interest is the interest, not only on the principal but on the interest also, as it falls due. The amount of interest legally obtainable varies in the States and Territories of the United States, according to the laws of the respective States. Out of the 49 States and Territories there are 38 which have a legal limit of interest, the remaining 11 allowing the charge of any sum obtainable by contract.

In New York and some other States the exaction of illegal rates for the use of money is a criminal offence, and in other States equity may be invoked to relieve a debtor from interest that is manifestly exorbitant and unjustifiable. The Rhode Island Supreme Court, in a noted case, held that where 6 per cent. a month had been agreed to on a thirty day note it held only for the thirty days, even if the note was not paid, the interest then running at 6 per cent a year. Usury laws are sometimes circumvented by a bonus charged.

Interference, in farriery, the act of interfering or striking the hoof, or shoe of one hoof, against the fetlock of the opposite leg, so as to break the skin or injure the flesh.

Interior Department, one of the executive departments of the United States government. Its functions are indicated in the following duties of its chief: The Secretary of the Interior is charged with the supervision of public business relating to patents for inventions; pensions and bounty lands; the public lands and surveys; the Indians; education; the Geological Survey; Reclamation Service; Bureau of Mines; National Parks; distribution of appropriations for agricultural and mechanical colleges in the States and Territories; and supervision of certain hospitals and eleemosynary institutions in the District of Columbia. He also exercises certain powers and duties in relation to the Territories of the United States. Under the Secretary of the Department are three assistants, a chief clerk, five commissioners of bureaus, and three directors (Survey, Reclamation, and Mines).

Internal Improvements

Intermediate State, the state of the soul between death and the resurrection. Christian opinions on the subject may be reduced to two: one that there is a place distinct from both heaven and hell in which disembodied souls are kept till the resurrection; the other that the souls of the righteous at death, becoming perfect in holiness, immediately pass to heaven, while those of the wicked, now beyond the power of being regenerated, go to hell in anticipation of the judgment day. The Greek and the Roman Church hold the first opinion, while the Calvinistic or Puritan theology accepts the latter view.

Internal Improvements. From the beginning of the United States government till 1860, the question of a system of internal improvements carried on by the general government was a party question. The Republican (Democratic-Republican), and after it the Democratic party as the party of strict construction, opposed such a system. Improvements, the property in which remains in the general government, as lighthouses, etc., were not opposed, but improvements on rivers and roads, the benefit of which passes to the States, were the objects of attack. Most of the earlier States were on the sea-coast, and the improvement of their harbors was at first carried on by means of tonnage taxes on the commerce of the port, levied with the consent of Congress. But a tax on tonnage is a tax on the consumer of the goods carried in the vessel, and the growth of inland States rendered it unjust thus indirectly to tax them in the price of articles consumed, in order to improve the harbors of the sea-coast States, and though this practice was, in isolated cases, continued till the middle of the 19th century, it was generally discontinued much earlier. As early as 1806 the improvement of roads by the National government was conceived in order to indemnify the interior States, and in 1823, the improvement by the National government directly of rivers and harbors was begun. The Republican (Democratic-Republican) Presidents Jefferson, Madison, and Monroe, opposed these improvements as unconstitutional, though toward the end of his term Monroe became more favorable to the

system. John Quincy Adams was a warm advocate thereof and Jackson its stern opponent. Though the Democrats opposed any general system of improvements, they continued to apply funds to particular purposes. The Whigs now adopted the system originated by the Democrat, Jackson, viz., the distribution of the surplus among the States. But once did the Whigs attempt to put this into execution, and then, in 1841, the veto of President Tyler, at odds with his party in Congress, put an end to that scheme, which has not since been revived. The introduction of railroads has partly done away with the question of improvements for roads, while a system of assistance to the railroads, by means of the grant of land along the line of their route, has sprung up. From this policy a revulsion has set in and the present tendency is to the recovery of as much of the land so granted as has not been earned by a strict compliance with the terms of the grant. To this both of the great political parties stand committed.

Internal Revenue, the moneys collected under the internal revenue bureau in the Treasury Department of the United States. The term includes most of the receipts from national taxes, except customs duties; but as commonly restricted it does not embrace receipts from the sale of public lands, patent fees, postal receipts, etc., which are really sources of internal revenue. Taxes are apportioned among the States only in proportion to the population. The first internal revenue tax was by act of March 3, 1791, which provided for a tax on distilled spirits of domestic manufacture, discriminating in favor of those produced from domestic materials, and against those produced from foreign materials. The enforcement of this act led to the Whisky Insurrection of 1791. In 1794 taxes were levied on carriages, retail selling of wines and foreign distilled liquors, on snuff, sugar and sales at auction. In 1797 taxes were laid on stamped vellum, parchment and paper. In 1798 the first direct tax of its kind, one of \$2,000,000, was apportioned among the States, and it was proposed that it should be levied on dwelling-houses, slaves and land. The tax of 1791 was levied to establish the prin-

ciple of national taxation; that of 1794 from fear of hostilities with England; that of 1798 because of the threatened war with France. On Jefferson's accession to the presidency, and on his recommendation, all internal taxes were repealed in 1802, and no others were authorized till 1813. Then the war with England necessitated an increased revenue and most of the old taxes were reimposed. These were to cease a year after the close of the war, for the maintenance of which they were levied; but they were afterward continued for a while for the payment of the national debt. In 1814 increased need of money led to an augmentation in the amount of these direct and other internal taxes, and to the first imposition of taxes on domestic manufactures other than sugar, snuff and spirits, such as iron, candles, hats, playing-cards, umbrellas, beer, ale, harness, boots, plate, household furniture, gold and silver watches, etc. The return of peace brought the abolition of direct taxes, excise duties and other internal taxes, and from 1818 to 1861 none of these were levied.

The Civil War forced a renewal of the internal revenue system, and in 1861 a direct tax of \$20,000,000 was apportioned among the States, though it was not collected till a year later. On July 1, 1862, an exhaustive internal revenue act was passed, levying taxes on all sorts and kinds of articles too numerous to mention, on trades, incomes, sales, manufactures, legacies, etc. The bill was ill-considered and needed frequent modifications. More than 25 acts on the same subject were passed within the next six years. A few industries were taxed out of existence, but all were more or less disturbed. However, enormous revenues were raised and the people submitted without opposition to the necessities of the case. Extensive reductions were made after the war had ceased by various acts in 1866, 1867 and 1868. Further reductions were made in 1872, when, among others, stamp taxes, except that of two cents on checks, drafts and orders, were abolished. Various acts after 1872 also reduced the subjects of internal revenue taxation to a considerable degree, as tobacco, spirits, fermented liquors, bank circulation and, by Act of Aug. 2,

International

1886, oleomargarine. By the Revenue Act approved June 13, 1898, special taxes were levied to meet the expenses of the war with Spain. Among the articles taxed under this act were, fermented liquors, tobacco, snuff, bonds, debentures and certificates of stock issued after July 1, 1898, agreements of sale, bank checks, drafts, bills of exchange, insurance policies, proprietary medicines, etc. The War Revenue Act of 1917 imposed the largest number and amounts of special taxes in the history of the country. The collections from all sources in the year ending June 30, 1930, aggregated \$3,040,145,733 and customs \$596,128,000.

International, the recognized contraction for a society of which the full title was The International Working Men's Association. It was founded at a meeting held in St. James' Hall, London, Sept. 28, 1864. At The Hague Congress, in 1872, the extreme party was outvoted by the moderate wing, who transferred the seat of administration to New York. After the Geneva Congress, in 1874, the International proper ceased to exist. The extremists lingered till 1879, and then formed an alliance with Socialism. The general aims of the International were the abolition of wage-paid in favor of associated labor, to be developed to national dimensions by national means, the abolition of private property in the means of production, and their reversion, with land, to the State.

International Law, the name given by Bentham to what had previously been called the Law of Nations. It arose gradually during the latter part of the Middle Ages, when commerce and navigation began to revive. At first it took the form of commercial usage, then it was promulgated in "royal ordinances," and finally became tacitly recognized as commercial law. Then it was extended to all international transactions, even though not commercial. It is divided into three departments: the principles that should regulate the conduct of States toward each other; of private parties arising out of the conduct of States to each other; of private parties as affected by the separate internal codes of distinct nations. Its

Interstate Commerce Law

leading principles are three: that every nation possesses an exclusive sovereignty and jurisdiction in its own territory; that no State or nation can by its laws directly affect or bind property out of its own territory, or persons not resident therein, natural born subjects or others; that whatever force the laws of one country have in another depends solely on the municipal laws of the latter.

Interstate Commerce Law, The.

It is seldom that an act of Congress touches so closely the life of the people as does the interstate commerce law. The great transportation systems that have grown up out of the necessities of the vast inland trade of the United States are under private control. Frequent and well-grounded complaints from all sections of the country resulted in congressional action. On Feb. 4, 1887, the national Legislature passed the bill now known as the interstate commerce law, which went into effect April 5. It applies in the main to the "trunk line" railroads, and its authority rests on the constitutional right of the central government "to regulate commerce between States." The law was the fruit of an attempt to remove the inequalities of freight and passenger rates, which had become an evil, and most of its provisions are calculated to abolish abuses. No free passes may be issued except to postal agents and regular officials of railroads. No reduced rates to special classes of travelers may be granted. This clause affects commercial travelers, theatrical companies, baseball nines, and other itinerant organizations or individuals who have heretofore paid less than the ordinary fare; but the prohibition does not apply to ministers of the Gospel. Freight rates were disturbed more than any others. Some roads practised systematic discrimination in their charges. A great corporation often paid at a low rate for its vast business, while the small shipper was crushed by a much higher charge for transportation. It was difficult to discover and abolish such arrangements, and smaller concerns had to suffer. The interstate commerce law was intended to end this abuse. But the most important feature of the act is embodied in what is known as the "short-haul

clause." On certain railroad lines in competition with water routes it has been customary for land carriers to make a reduction in freight charges, in order to secure traffic which would otherwise fall to the slower but cheaper canal and steamboat lines. A good example of the "long and short haul principle" is found in England, where American products may reach London by one of two principal routes: by steamer direct, or by steamer to Liverpool, and thence by rail to London. Railroads carry foreign freight between these two cities for less than their regular charges for half the distance. Otherwise no freight at all would go by way of Liverpool. Such an arrangement naturally causes dissatisfaction among the merchants of the way stations, who pay more for the "short haul" to London than their brother merchants in Liverpool pay for the "long haul" (the whole distance to Liverpool). In America hundreds of instances could be found in which railroads made this distinction between through and local freight. The new law forbade the distinction, and, as a consequence, the rates of through transportation were increased. But the first act of the Interstate Commerce Commission was to suspend the "short-haul" clause for 90 days in the case of certain roads, which protested that they would be ruined by its operation, on account of the cheap water routes which are open to their patrons. The Interstate Commerce Commission consists of 11 members together with a Secretary, Asst. Secretary, and Asst. to the Asst. Secretary.

Intestacy, the state of a person who has died without leaving a will. If no will, or deed equivalent to a will, is executed, or if a will executed is invalid from defect or form, then an intestacy occurs, and the law provides an heir or next of kin, in lieu of the owner himself doing so.

Intestine, the name given to the convoluted membranous tube extending from the stomach to the anus, which receives the ingested food from the stomach, retains it for a longer or shorter period, mixes it with the bile, pancreatic juice, and intestinal secretions, gives origin to the lacteal or absorbent vessels which take up the chyle and convey it into the current

of the blood, and which, lastly, conveys the fecal or indigestible products from the system. The intestines are contained within the cavity of the abdomen, and from their comparative size and caliber, as well as from structural conformation, are divided into the large and small intestines.

Intoxication, the state produced by the excessive use of alcoholic liquids. In the first stage the circulation of the blood becomes somewhat more rapid, and all the functions of the body and mind are exercised with more freedom. In the second stage the effect on the brain is more decided. The peculiarities of character, the faults of temperament, manifest themselves without reserve; the secret thoughts are disclosed, and the sense of propriety is lost. In the next degree consciousness is still more weakened; the ideas lose their connection; vertigo, double vision, and other discomforts supervene; till finally the excitement partakes of the nature of delirium, and is followed by a more or less prolonged stupor, often by dangerous coma.

Intransigentes (Spanish, "the irreconcilables"), the name given to the Extreme Left in the Spanish Cortes, and afterward to the extreme Republican party in Spain, corresponding with the Communists in France. In the latter sense it was first used in the Spanish troubles which arose when Amadeus resigned the throne in 1873.

Intrenchment, any work that fortifies a post against the attack of an enemy. The word is generally used to denote a ditch or trench with a parapet.

Intrepid, **The**, the name given to the Tripolitan ketch captured by Decatur, in which he and 74 brave American tars, on the night of Feb. 16, 1804, entered the harbor of Tripoli and boarded the American warship "Philadelphia," which the Tripolitan pirates had captured, and after a fierce struggle with her turbaned defenders killed or drove them into the sea.

Invalides, the name of a French soldiers' home. In 1596 Henry IV. formed an asylum for military invalids in an old convent in the Faubourg St. Marcel. This institution was removed

to the Chateau de Bicetre by Louis XIII. In 1670 Louis XIV., by whose wars the number of invalids was greatly augmented, determined to found a magnificent establishment to receive them. Several additions were made at various times, and the whole edifice now covers 16 acres of ground, enclosing 15 courts. All soldiers who are actually disabled by their wounds, or who have served 30 years and obtained a pension, are entitled to the privileges of this institution, which can accommodate 5,000 men.

Inventory, a list or catalogue of goods and chattels, containing a full, true, and particular description of each, with its value, made on various occasions, as on the sale of goods, decease of a person, storage of goods for safety, etc.

Invertebrata, a collective term applied to indicate all the great lower divisions or sub-kingdoms of the animal series, and used in contradistinction to the highest group of the animal kingdom, to which the name Vertebrata or vertebrate animals is given.

Investiture. From the establishment of the Church under Constantine the Great, the Roman functionaries interfered in ecclesiastical affairs. The emperors, kings, and princes of Europe became accustomed to confer the temporalities of the larger benefices and monasteries by the delivery of a ring and a crozier. When the bishop or abbot elect had received these, he carried them to the metropolitan, who returned them, to indicate that the Church had conferred on him sacred office. Pope Gregory VII. considered these were insignia of spiritual office, and not of its temporal accompaniments. He therefore wished the emperor, Henry IV., to cease conferring investitures. A fierce contest arose between them, continued by their successors. By an arrangement at the Diet of Worms, 1122, it was settled that the emperor should confer the temporalities of a see or abbacy by other symbols.

Invincibles, an Irish secret society not identical with that of the Fenians, prior to 1882. One of the main objects of the Invincibles was to "remove" (a euphuism for "to assassinate") government officers or others who

might incur the displeasures of the association. On May 6, 1882, it achieved what doubtless it deemed a great victory, having on that day succeeded in "removing" Lord Frederick Cavendish, and Thomas A. Burke, in the Phoenix Park at Dublin. The plot was directed against the latter, and the former interfering to protect his friend, shared his fate. The government soon overcame the "Invincibles." On Feb. 20, 1883, 20 charged with complicity in the Phoenix Park murders were put on trial; on July 14, Joseph Brady, who had been convicted of actual perpetration of the murder of Mr. Burke, was executed, as were others subsequently. The leading witness was James Carey of Dublin. He was shot in a steamboat near Natal, on July 29, by an Irishman, O'Donnell, who was subsequently brought to England, tried, and executed.

Invocation, a judicial call, demand, or order; as, the invocation of papers into court.

Invoice, a statement on paper concerning goods sent to a customer for sale or on approval. It usually contains the price of the goods sent, the quantity, and the charges on them made to the consignee.

Iodine, a haloid monatomic element obtained from the ash of sea-weeds called kelp; this is treated with water, filtered and evaporated to a small bulk; potassium and sodium salts crystallized out and the dark-brown mother liquid then mixed with sulphuric acid and manganese dioxide, and, gently heated in a still, the iodine distills over and is collected in a receiver.

Iodism, the term within which is included a variety of painful and inconvenient results following, under rare circumstances, the administration of iodine and its salts, but more especially the iodide of potash, a most valuable blood remedy, which, however, should never be taken except under medical direction.

Iodoform, a lemon-yellow crystalline substance, having a saffron-like odor and an unpleasant iodine-like taste. Its odor is most persistent, and can hardly be removed. It is of interest as having a composition similar to that of chloroform, from which it

differs only in having iodine in the place of chlorine.

Iona, or **Icolmkill**, the isle of Columba's cell or retreat, one of the W. islands of Scotland, in the Atlantic Ocean; area, 2,000 acres. It is chiefly interesting to the antiquarian, for the ruins of its ancient religious edifices. These were established about the year 565, by St. Columba, who left Ireland, his native country, with the intention of preaching Christianity to the Picts. In the church, said to have been built by Queen Margaret toward the latter end of the 11th century, are the tombs of 48 Scottish kings, 4 kings of Ireland, 8 Norwegian monarchs, and 1 king of France.

Ionía, in ancient geography, the most flourishing district of Asia Minor, where a colony from Attica settled about 1050 B. C. This beautiful country extended from the Hermus along the shore of the Ægean Sea to Miletus and the promontory of Posideum. This country is said to have been peopled by Greek colonists about 1045 B. C. After founding important cities, the Ionians obtained possession of Smyrna about 688 B. C., and the country soon attained a high degree of prosperity. At the commencement of the reign of Croesus, 560 B. C., it was subject to the Lydians, and it was conquered by Cyrus 557 B. C. The inhabitants made unsuccessful efforts to regain their independence, 500 and 406 B. C., and they assisted the Greeks against the Persians at the battle of Mycale, 479 B. C. The Persian yoke was at length shaken off by the victory at the Eurymedon, but the peace of Antalcidas again imposed it on the Ionians 387 B. C. On the overthrow of the Persian empire by Alexander III., Ionia became subject to Macedonia, and it afterward formed part of the Roman empire 133 B. C.

Ionian Islands, the name commonly given to the seven islands, Cephalonia, Cerigo, Corfu, Ithaca, Paxo, Santa Maura, and Zante, with a number of islets, extending along the S. W. coast of Greece: area, 1,097 square miles; pop. 226,590. The Ionian Islands, with their dependencies, were erected into the republic of the Seven United Islands, March 21, 1800. It was to pay a moderate tribute to the Porte, and its independence was guaranteed by Turkey and Russia. The

French captured the islands in 1807, and Russia ceded them to France, July 7, 1807. The French garrisons surrendered to an English force, Oct. 3, 1809, and by a treaty between Great Britain and Russia, signed at Paris Nov. 5, 1815, they were formed into an independent State, called the United States of the Ionian Islands. With the consent of Great Britain, they were reunited to the kingdom of Greece in 1864.

Ionian School, the first school of Greek philosophy, the distinctive characteristic of which was its inquiry into the constitution of the universe.

Ionian Sea, that part of the Mediterranean communicating with the Gulf of Venice by the Strait of Otranto, and having Greece and part of European Turkey on the E.; Sicily and the most S. part of Italy on the W. Its greatest breadth is about 400 miles.

Ionic Order, one of the five orders of architecture, the distinguishing characteristic of which is the volute



IONIC COLUMN.—BASE AND CAPITAL.

of the capital. The Ionic order has more moldings, its forms are richer and more elegant, and as a style, it is lighter and more graceful than the Doric.

Ions, the components into which an electrolyte is broken up on electrolysis. The one, the anion (the electro-negative component, chlorine), travels "against" the current (in its conventional direction in the circuit), and is deposited on or chemically attacks the anode or positive electrode; the other, the cation (the electro-positive component, copper), travels "with" the current to the cathode, to the spoons in the plating bath.

I O U, an English recognized contraction for "I owe you," a paper with these letters on it, followed by an amount and duly signed. It is a simple acknowledgment of indebtedness to some particular person. It is not a negotiable instrument. This form of due bill has never obtained currency in the United States.

Iowa, a State in the North Central Division of the North American Union; admitted to the Union, Dec. 28, 1846; number of counties, 99; capital, Des Moines; area, 56,147 square miles; pop. (1930) 2,470,939.

The surface of the State is generally level, with a gentle rise toward the N. The highest elevation is near Spirit Lake, in Dickinson county, 1,694 feet. The center of the State forms a watershed between the Mississippi and the Missouri. There are no hills of consequence, the entire surface being a plateau, and whenever irregularities occur, they are depressions below the general level. There are steep bluffs along the river banks, caused by the wearing away of the drift and rocks, by the water. The State is covered with prairie land, with no swamps or natural forests. The water system is divided into two parts, those rivers flowing into the Mississippi in the E., and those flowing into the Missouri in the W. There are many small and beautiful lakes, the largest being Spirit Lake, and the Okoboji Lakes, in Dickinson county.

The Illinois coal field extends over an area of 20,000 square miles in this State and the production in 1929 was 4,130,000 short tons valued at \$16,326,890. The value of the entire mineral output was \$35,499,000.

The soil generally is a soft black loam, formed directly through deposits of the Quaternary age, and varies

from 1 to 100 feet in depth. It is easily worked, free from stones and stumps, and of almost inexhaustible fertility. The soil of the prairies is a diluvial drift, while the river beds furnish a light alluvial deposit. The principal natural trees are several varieties of oak, hickory, elm, black walnut, linden, cottonwood, maple, cedar, slippery elm, butternut, sycamore, ash, pine, and box-elder.

The estimated value of 67 principal farm crops in 1929 was \$510,000,000, corn leading with \$306,432,000, followed by oats, \$85,772,000 and hay, \$73,051,000. Farm livestock in 1925 had a value of \$420,349,000. There were 213,439 farms totaling 33,281,000 acres valued at \$3,969,814,000.

The U. S. Census reported for 1927 a total of 3,061 manufacturing plants employing 73,692 wage-earners, paying \$91,247,000 for wages, \$496,940,000 for materials, fuel and power, using 330,702,000 horsepower and yielding products valued at \$769,341,500. Banking was promoted in 1929 by 1,328 institutions exclusive of Federal Reserve Banks which had a combined capital of \$111,633,000; deposits, \$816,646,000, resources, \$1,127,571,000. The exchanges at the clearing houses at Sioux City, Waterloo, Cedar Rapids, Davenport, Iowa City and Des Moines, aggregated \$1,804,900,000.

Iowa is traversed by 9 great steam railroad systems with mileage in the State of 9,751.

In 1928 the public school enrollment was 551,400; private and parochial school enrollment, 47,371; there were 27,994 teachers in public schools. For higher education there were 1,044 high schools and 43 colleges and universities.

The aggregate debt of counties, cities and minor civil divisions in 1927 was \$23,227,000; and in 1927 the State revenue was \$37,541,000; expenditures, \$40,560,000; the assessed valuation of all taxable property \$1,545,000,000.

The governor is elected for a term of two years, and receives a salary of \$7,500 per annum. Legislative sessions are held biennially and are unlimited in length. The Legislature has 50 members in the Senate and 108 in the House; each receives \$1,000 per ses-

Iowa College

sion. There are 11 representatives in Congress. The government in 1930 was Republican.

Iowa was first visited by Marquette and Joliet, the French explorers, in 1673, and the first settlement was made by Julien Dubuque and a party of 10 to work the lead mines near the present city of Dubuque. The territory including Iowa was ceded to Spain in 1763, and re-ceded to France in 1801, and became the property of the United States by the "Louisiana Purchase" in 1803. It became a separate territory in 1838, and was admitted to the Union as a State in 1846. In 1857 occurred the Spirit Lake massacre, an Indian raid, in which about 40 settlers were killed and their homes destroyed. The capital was formerly in Iowa City but since 1857 is at Des Moines.

Iowa College, former name of **Grinnell College**, at Grinnell, Ia.; founded in 1847; now co-educational and non-sectarian; has endowment exceeding \$1,300,000 and (1928) 68 instructors and 783 students

Iowa State College of Agriculture and Mechanic Arts, a co-educational State institution founded in 1858, at Ames, Ia. It has property valued at over \$2,700,000, and (1930) 388 instructors and 5,571 students.

Iowa State University, a co-educational institution, opened at Iowa City in 1855. Its property is valued at over \$2,500,000, and it has an average faculty of 600, and student attendance of about 9,705.

Iowa Wesleyan College, a co-educational institution in Mount Pleasant, Ia.; founded in 1844 under the auspices of the Methodist Episcopal church; teachers, 29; students, 475.

Iranian Languages, a family of languages belonging to the Indo-European stock, closely allied to the Indian group, and called by some philologists Persian, from the best-known member of the family. The two oldest known Iranian languages are the Old Persian of the cuneiform inscriptions and the Old Bactrian or Zend, the latter the language in which the Zend Avesta or sacred writings of the Parsees is composed. The Middle Iranian languages are the Pahlavi, and still later the Parsi, which are preserved in the

Ireland

commentaries to the Zend Avesta. The latter approaches pretty closely to the modern Persian. The most important of the New Iranian languages is the modern Persian, in which has been produced a very rich and celebrated literature.

Irawadi, or **Irrawaddy** (said to mean, like Mississippi, "father of waters"), the principal stream in Farther India, E. of the Brahmaputra. It is navigable for vessels of 200 tons burden as far up as Ava. Length, about 1,200 miles.

Ireland (in Irish, Erin; in Latin, Hibernia), the more W. and smaller of the two principal islands of which the United Kingdom is composed, is separated from Great Britain on the E. by the Irish Sea, and surrounded on all other sides by the North Atlantic Ocean. Measured diagonally, the greatest length is 300 miles; and the greatest breadth is 212 miles; area, 32,586 square miles; pop. (1926) 4,229,124. Of these 2,972,804 are in the Irish Free State, and 1,256,322 in Ulster, or Northern Ireland. Dublin (pop. 316,471) is the capital of the former; Belfast (pop. 425,156) of Ulster. Other large cities are Cork, Limerick, and Londonderry.

The climate of Ireland is very favorable to vegetation. Its mild temperature and humid atmosphere enable several delicate plants, which usually in the same latitude can only be cultivated in sheltered gardens, to flourish here with vigor in the open air; and not infrequently forest trees continue to retain their foliage after they have lost it in the warmer parts of England. So far, then, as nature is concerned, no country ought to be richer in forest scenery than Ireland; and it would seem that in early times large tracts of magnificent timber were spread over its surface; but by mismanagement trees have almost disappeared everywhere except from the parks of the gentry, and what ought to have been among the best, is perhaps the worst wooded country in the middle latitudes of Europe.

Manufactures and Trade.—The linen manufacture early took root in Ireland, and still continues to be its most important staple, and Belfast, its center, has now become the first city of Ire-

land in population as well as in manufacturing industry. The cotton manufacture has had a very different history, the number employed in this industry having declined from 4,000 in 1868 to 800. The woollen manufacture appears at the outset to have made such progress as to alarm the woollen manufacturers of England; who, in a spirit of petty jealousy, petitioned the English Parliament for its discouragement, and succeeded. As a result the woollens of Ireland continue to be of very secondary importance, and indeed the manufacture seems to have much decreased in recent years. The manufacture of Irish poplins (of woollen and silk, or woollen and flax or cotton) is very flourishing. There are about 20 mills engaged in paper-making. The brewing of porter and distillation of whisky form important items in the national production. Sewed muslins, cambric handkerchiefs made on handlooms, lace, and hosiery may also be mentioned.

The trade of Ireland is not at all proportioned to her natural capabilities, and to the admirable facilities afforded by the excellent harbors situated on her coasts. The most important article of export is raw produce, the greater part of which finds its market in Great Britain. It consists chiefly of grain and flour, live stock, salt and fresh meats, eggs, butter, etc. Manufactured articles, particularly linen, rank next in importance; but as the bulk of such articles is very small in comparison with their value, the trade, or at least the shipping connected with them holds only a secondary place. The trade with foreign countries is also inconsiderable. The principal imports are colonial produce, woollen and cotton goods, wheat, wool, coals, and salt. Of the shipping employed in this trade only a mere fraction is Irish.

The Reformation never made much progress in Ireland, and though a Protestant Episcopal Church was established by law, it was only the church of a small minority. In 1869 it was disestablished.

At the head of the Roman Catholic Church in Ireland are four archbishops, who take the titles of Armagh, Dublin, Cashel, and Tuam, and 24 bishops. They are all nominated by the

Pope. There are numerous monasteries and convents. Ulster is largely Protestant; the Irish Free State mainly Roman Catholic.

Six of the nine counties of Ulster, together with the parliamentary boroughs of Belfast and Londonderry, constitute Northern Ireland, which is under Great Britain and sends members to the Imperial Parliament.

The Irish Free State took its place among the world's commonwealths on Dec. 6, 1922, by proclamation of King George, the swearing in of Timothy M. Healy as Governor-General and the meeting of the permanent Parliament which succeeded the provisional regime.

Ireland's Past, Present and Future.

The early history of Ireland is enveloped in fable. Whosoever the first inhabitants were the Celts obtained possession at a prehistoric period, and the island has remained chiefly Celtic ever since. St. Patrick converted the people from heathenism to Christianity, and for several hundred years after his time Ireland was preëminent in learning and missionary work. The people, however, remained divided under various kings and chiefs, and while the island contained religious and literary centers that were beacons of enlightenment to other lands, many of the natives were little better than savages. Ireland never received the Roman admixture which dominated France, and enabled that nation to become great in spite of feudalism and other features of the Dark Ages. Neither did Ireland receive, in time for it to have saving effect, that Saxon and Norman immigration which molded Scotland into a kingdom against which English aggression hurled its forces in vain. Ireland was, in effect, the highlands of Scotland without the lowland element, and met the fate which would have overtaken Scotland, had that nation ended at the Grampians. The Irish united long enough under Brian Boru to repulse the Danes. Then they fell back again into anarchy, of which Henry II. of England, under cover of a papal bull granting him the island, took advantage. From the landing of Strongbow until a recent period the struggle against the Anglo-Norman element reinforced since the reign of James I., by the Scottish emigration to Ulster,

went on. Of the Anglo-Normans many became "more Irish than the Irish themselves," and the opposition to British rule has largely emanated from this class, which has also given to England some of its most distinguished names in literature, war, and statesmanship. Since the Reformation religious differences have accentuated racial antagonisms, and cruel persecutions were met by savage retaliation. Rather than submit to British rule the Irish have largely emigrated, and in the armies of France and America Ireland's sons have met in arms their hereditary foes. The British government attempted at first to treat Irishmen fighting for America as traitors, but the late General Winfield Scott, in the War of 1812, gave the British to understand that any such action would be met by reprisals, and England tacitly abandoned that attitude. The present situation is that the Irish population in America far exceeds that in Ireland, where, although the Irish race is prolific, the population has for many years been steadily decreasing.

The successive conspiracies to separate Ireland from England by force have of late years been superseded by a movement to secure Home Rule for Ireland similar to that of Canada and Australia, and of the Isle of Man. The late William E. Gladstone after first opposing Home Rule, became a convert to the proposition, and earnestly advocated it. Charles Stewart Parnell was the leader of the Irish Home Rule movement, and an unhappy scandal which embittered his later years, undoubtedly did much, in weakening his personal standing, to weaken the Home Rule cause. The Irish Home Rule leaders quarreled among themselves, the opponents of Home Rule triumphed in the English elections, and for the present the question is in abeyance. The British government, however, is carrying through a liberal land reform scheme, intended to transfer, on reasonable terms, the farm lands of Ireland from the owners to the occupants. This has been done, to a large extent in Ireland under previous legislation, and the virtual completion of this plan cannot fail to attach the farming element to the British allegiance. Already the condi-

tion of the Irish people shows general and marked improvement, which has greatly impressed itself on visitors from the United States, and some of the principal Irish political leaders are urging their countrymen to remain in their native land. When King Edward and Queen Alexandra visited Ireland in the summer of 1903 they were received everywhere with cordial enthusiasm, significant of the changing feelings of the people toward the British crown.

HENRY MANN.

Ireland, John, an American clergyman; born in Ireland, Sept. 11, 1838; came to the United States early in life; was educated in the Cathedral School of St. Paul; studied theology in France and was ordained a priest Dec. 21, 1861; was chaplain of the 5th Minnesota Volunteers in the Civil War. After the war he became rector of the cathedral in St. Paul; was later secretary and coadjutor to Bishop Grace, of St. Paul; was consecrated bishop in December, 1875, and archbishop in May, 1888. Died, 1918.

Irenæus, a church father; born in Greece about 120, was a disciple of Polycarp, by whom he is said to have been sent to Gaul. On the martyrdom of Pothinus he succeeded him in the bishopric of Lyons in 177. Irenæus was a man of considerable learning, and animated with ardent zeal for Christianity. His great work is his refutation of the Valentinian form of the Gnostic heresy, and is usually named "Against Heresies."

Iridescence, the sheen of mother-of-pearl and other objects possessing a finely grooved surface. It is due to interference between the waves of white light reflected from different levels in the grooving; some of the wave-lengths are more completely abolished by interference than others are; the result is that the residual vibration which reaches the eye contains a preponderant proportion of the rays which have been less affected by interference, and the reflected light accordingly presents colors which vary according to the angle of reflection.

Iridium, a tetrad metallic element discovered by Descotils in 1803, and by Tennant in 1804, in the black powder which remains when crude platinum is dissolved in nitrohydrochloric acid.

Iris, in classical mythology the messenger of the gods who carries messages from Ida to Olympus, or from the gods to men.

In astronomy, an asteroid of the group between Mars and Jupiter, discovered by Hind in 1847.

In botany, the flower-de-luce. The species are very numerous, and are generally remarkable for their large, yellow, white, or blue flowers, and sword-like leaves. They abound in Europe, but are rare in America. The rhizomes of several species are more or less purgative and emetic.

In anatomy, the anterior part of the choroid coat of the eye, with super-added muscular fibers.

Irish Free State, see IRELAND.

Irish Sea, a body of water lying between the N. of Ireland and the N. of England, with the S. W. counties of Scotland on the N. It is connected with the Atlantic on the N. W. by the North Channel and on the S. by St. George's Channel.

Irish Society, a committee of citizens belonging to 12 London Companies, invited by James I, in 1613 to take part in cultivating the confiscated lands in Ulster, which, to the extent of 511,465 acres, had become vested in the crown. The society in large measure built Londonderry, though walls and bastions had been erected there as early as 160. They largely colonized the county of the same name, which was bestowed in honor of the 12 London companies. The full title of the society is the Honorable Irish Society.

Iritis, or **Iriditis**, an inflammation of the iris, accompanied by vascular-ity, change in color and appearance, irregularity and immobility of the pupil, with a visible and varying amount of lymph deposited in, on, and round the iris.

Iron, ferrum, a metallic tetrad element. It is the most universally distributed and the most generally applied of all the metals. Iron occurs nearly pure or alloyed with nickel in meteorites, but is generally found in combination with oxygen and as a carbonate. It is widely diffused in rocks, and often forms the chief coloring matter of clays and sands.

The commanding position of the United States in the production and

manufacture of iron and steel is illustrated by its production in 1929 of 41,549,000 long tons of iron and 56,473,473 of steel, while in 1927 the production of Great Britain was 7,289,000 long tons of iron and 9,086,300 of steel; Germany produced 13,102,528 metric tons of iron and 16,305,330 of steel; France, 9,239,000 metric tons of iron and 8,275,000 of steel.

The marketed production of iron ore in the United States during 1929 was 75,603,000 long tons valued at \$197,149,000; and the marketed production of pig iron was 41,549,000 long tons, valued at the furnaces at \$731,858,000. The imports of iron ore for consumption were valued at \$8,100,000 and the exports at \$4,775,000.

The banner year of American production of iron ore was 1910, when the output totalled 56,889,734 long tons, valued at the mines at \$140,735,607. As in the eleven preceding years, the production of iron ore in the United States in 1910, was never equalled by that of any other country. Twenty-three States produced pig iron in the banner year, the total output being 27,303,567 long tons, valued at \$425,115,235. The imports of iron ore were valued at \$7,832,225, and the exports, \$2,074,164; imports of pig iron, \$8,533,628, and exports, \$1,399,151.

The iron ore mined in 1929 was as follows in gross tons:

REGION	
Lake Superior Region	62,825,000
Birmingham	6,282,000
All other	3,921,000
STATE	
Alabama	6,453,000
Tennessee	102,000
Michigan	15,456,000
Minnesota	45,761,000
Wisconsin	1,609,000
Pennsylvania	1,092,000
New York	822,000
New Jersey	281,000
Wyoming	639,000
All other	812,000
KIND	
Hematite	69,849,000
Brown Ore	776,000
Magnetite	2,401,000
Carbonate	2,000

The largest iron mine in the United States is near Hibbing, Minn. It produced 4,474,415 tons of hematite ore in 1922.

Iron Age, in classical mythology, the last of the four great ages of the world described by Hesiod, Ovid, etc. It was supposed to be characterized by abounding oppression, vice, and misery.

In scientific archaeology, an age, the third in succession, in which weapons and many other implements began to be made of iron, stone having been used for these purposes in the first, and bronze in the second.

As the advancement of each tribe or people is not necessarily at the same rate as that of their neighbors, the Iron Age probably did not begin everywhere simultaneously. In Denmark and some of the adjacent regions it may have commenced at about the beginning of the Christian era. Gladstone, in his "Studies on Homer," calls it "the age of sheer wickedness."

Iron City, a popular name applied to Pittsburg, Pa., because of the large number of its furnaces, rolling mills, and foundries; also known as the "Smoky City," because of the large use of bituminous coal.

Ironclad, a naval vessel protected by iron plates. The system of plating ships with iron was first tried on some of the French floating batteries used at Kinburn in 1855; but, though the results was satisfactory no advance was made till 1858, when the French again took the lead with the "Gloire," but were quickly followed by the first English armored vessels. All the early vessels were constructed of wood, but the later specimens have been built of iron framing, and few of the modern ships are alike. The first crucial test to which ironclad vessels were subjected, however, was reserved for the American navy to apply. An old wooden steam vessel, the "Merrimac," was razed by the Confederates, and covered with iron (railroad rails, etc.), and the sides sloping up to an apex like the acute angle formed by an old-time house roof. Operations were begun against the National war vessels in Hampton Roads, Virginia, in the early part of 1862, and after the "Cumberland" and "Congress" had been irretrievably injured, and the "Minnesota" run aground, the "Monitor," the first turreted ironclad ever used in active warfare, the production of Capt. John

Ericsson, appeared in the roadstead, and then began the first naval duel between ironclad vessels. Neither the "Virginia," as the "Merrimac" had been rechristened, nor the "Monitor" was much injured in the fight, but owing to the less draught of the "Monitor" the Confederate vessel was rendered practically useless and obsolete, and in a few days thereafter was run down the James river to Craney Island and sunk. The success of the "Monitor" gave rise to numerous vessels the salient features of which were a low free board and a revolving turret, and practically revolutionized naval warfare. From that time all maritime nations began rushing the construction of ironclads (now a misnomer, as the vessels are steel-clad), each type soon giving way to a more formidable one. In 1916 the United States had 26 first and second line battleships each and 36 cruisers of all classes, and in 1917 a great fleet of the heaviest types building.

Iron Cross, a Prussian order, instituted March 10, 1813, by Frederick William III., to be conferred for distinguished services in war. It was made of iron to commemorate the grim "iron" period at which it was created. The decoration consists of a Maltese cross of iron, edged with silver, and is worn round the neck or at the buttonhole. The order was revived by William I. in 1870, on the eve of the great war with France. The grand cross, a cross double the size, is presented exclusively for the gaining of a decisive battle or the capture or brave defense of a fortress.



IRON CROWN OF LOMBARDY.

Iron Crown, a golden crown, set with precious stones, with which anciently the kings of Italy, and afterward the German emperors were

crowned when they assumed the character of kings of Lombardy. It has received the above name from an iron circle, forged, according to a tradition opposed by some and accepted by others, from a nail of the cross of Christ, and introduced into the interior of it.

Irondale, a locality in Jefferson co., Wash.; 5 miles S. of Port Townsend. Here, nearly one-quarter of a century ago, was erected the first blast furnace on the Pacific coast. The venture, after being in operation for a matter of 12 years, proved a failure, and the plant was shut down. After the expenditure of \$250,000 in prospecting and developing iron mines, experimental work with fuels, the installation of new machinery, and the repair of the old plant, the Pacific Steel Company, a corporation in which practical ironmakers of Pennsylvania are the principal owners, has commenced work where the defunct Puget Sound Iron Company abandoned it.

Iron Gate, a narrow part in the course of the Danube below where it leaves Austrian territory and becomes the boundary between Serbia and Rumania.

Iron Hat, a hat-shaped headpiece of iron worn as armor from the 12th to the 17th century.

Iron Mask, Man in the. See MARCHIALL.

Iron Mountain, a city, the capital of Dickinson Co., Mich., organized in 1888 from part of Breitung township. It has large iron-mining interests. Pop. (1930) 11,652.

Iron-stone, a general name for ores of iron, or for some of them, as the argillaceous carbonate or clay iron-stone.

Ironton, a city, the capital of Lawrence Co., Ohio, on the river Ohio, 140 miles above Cincinnati, the center of an iron-producing district. It is a busy manufacturing and industrial center. Pop. (1930) 16,621.

Ironwood, a name given to various trees from the quality of their timber. The ironwood or hop-hornbeam of America is a tree with a trunk not exceeding six inches in diameter, with very hard wood, so heavy that it sinks in water, and foliage resembling that of birch.

Iroquois, a confederation of Indians formerly occupying the W. and central portion of New York State, consisting at first of five tribes, the Oneidas, Mohawks, Cayugas, Senecas, and Onondagas. In 1712 the Tuscaroras were admitted to the league, which adopted the title of the "Six Nations," and is so known to history. The Iroquois were at once the most powerful and the most enlightened; they lived in villages and pursued agriculture. In the Revolutionary War they were allies of the English, but in 1779 they were attacked by General Sullivan and greatly injured. The Iroquois present the curious anomaly among Indian peoples of steadily increasing in numbers since 1812. Most of them have been removed to various reservations farther west.

Irradiation, a curious phenomenon in virtue of which a star or any bright object appears larger than it really is. If a thin platinum wire be intensely heated by the passage of an electric current, it seems to a person distant about 50 feet to be as thick as a pencil.

Irrigation, the process of watering or moistening land by ditches or other artificial means. It is probably the earliest application of science to agriculture. During the last half of the 19th century the lands watered from the ancient irrigation works of India were more than trebled by the completion of the Ganges canal system, the largest and costliest in the world, and by the more systematic and effective operation of works previously built. The land reclaimed and the value of the products of irrigation in the historic Nile valley have been largely augmented within the past 30 years, and the completion of the great Nile dam at Assouan, built at a cost of \$24,000,000, is destined to raise the agriculture of Egypt to an importance and prosperity never before known and till recently believed to be impossible. Since the construction of the first ditches in Utah by the Mormon pioneers, irrigation has marvelously extended the domain of enterprise and civilization in all parts of the world. It has wholly changed the appearance and prospects of the W. third of the United States. It prom-

ises to make the Northwest Provinces of Canada one of the grain fields of the British empire. Within the past quarter of a century irrigation has made the Hawaiian Islands one of the chief sources of supply for the sugar consumed in the United States. This recent world-wide extension of irrigation in lands not long ago uninhabited and unproductive, has added many millions of acres to the world's productive area, and is causing the commercial and social importance of this art or science to be appreciated as never before. That it is to be one of the great factors in the industrial development of the 20th century cannot be doubted.

Methods.—The water used on the greater part of the irrigated area is distributed by gravity. The supply is tapped at a point higher than the land to be watered; thence it is carried in canals or ditches, which follow the contour of the country, to the place of use. Many of these canals are important engineering achievements. In the United States there are several canal systems which have cost over \$1,000,000, and at Lagrange, California, is the highest overfall dam in the world. The lifting of water from wells or streams by hand or by oxen was one of the great means of ancient irrigation. Of recent years this has been supplemented by an important use of steam-pumping plants. There are 1,500 of these in the San Joaquin valley of California alone. A large part of the water used in the irrigation of cane in the Hawaiian Islands is raised by pumps. Some of these are of extraordinary size and capacity, being capable of lifting 20,000,000 gallons 500 feet vertically in 25 hours. Other methods employed are flooding; the use of checks or levees, which is merely a modification of flooding by restricting the movement of water to definite areas by means of artificial embankments; the furrow method by which the water is confined in furrows from which it is absorbed laterally as well as vertically.

Irrigation Laws and Institutions.—In France, Spain, Italy, Egypt, and India all the more important irrigation works are owned and controlled by the government. Originally many of these works were private property, but the complications growing out of

private ownership of streams and the controversies over their distribution among these owners led to the assumption of governmental ownership and control of both ditches and streams. In undeveloped and sparsely settled countries, where the adoption of irrigation is of more recent origin, nearly all that has been done is the result of private enterprise. The United States for a long time stood practically alone among important irrigation countries in having left the work of reclamation to the unaided efforts of private capital and in the prodigality of the surrender of public control of streams. In one respect the policy pursued was successful. It resulted in an immense investment, somewhere between \$100,000,000 and \$200,000,000, but there was a growing belief that the end of this sort of development had about been reached, and that the next step would be a large measure of State or National aid and supervision.

After a few steps in this direction had been taken with suggestively encouraging results, Congress passed a very comprehensive Reclamation Act in 1902. The primary object of all laws bearing on the subject has been the creation of a maximum number of prosperous homes in the arid region. The term "arid," as here employed, is held to include all sections of continental United States where irrigation is generally practiced in the growing of farm crops. Specifically, the "arid" region includes the Dakotas, Nebraska, Kansas, Oklahoma, and Texas, and all of the States between these and the Pacific Ocean. In the practice of the Reclamation Service, attention has also been given to the rice-growing districts of Arkansas, Louisiana, and Texas. In general, it may be said that the material values created by the construction of irrigation works under the Reclamation laws have been far greater than, and in some cases several times, the amount expended upon the works.

During 1915 the operation of the laws continued to advance their objects as shown by the increase in the area for which the service could supply water, the increase in the areas actually irrigated and cropped, the increase in the value of the crops produced, and the increase in the actual number of settlers and of homes. Thus

the results of reclamation: Irrigable acreage, exclusive of works built for the Indian Service, 1,500,000; irrigated acreage, 857,000; irrigated farms, 20,000; cropped acreage, 800,000; and crop value, \$19,000,000.

A summary of construction results to June 30, 1916, shows: Estimated area of projects on completion, 3,117,862 acres; estimated area to which service was prepared to supply water, 1,690,244 acres; projects under contract, 1,307,703; and reservoir capacity available, 9,035,160 acre-feet.

The following statement shows general financial data for all projects: Estimated cost of completed projects, \$174,844,433; total construction cost to June 30, 1916, \$109,885,690; appropriation for fiscal year 1917, \$11,410,423; and allotment for construction in fiscal year 1917, \$8,271,248.

Irritant, in pharmacy, that which produces irritation or excitement of any muscle, nerve, or any organ or part of the body.

Irving, Sir Henry, an English actor; born in Keinton, England, Feb. 6, 1838. His family name was Brodribb, which was changed to Irving by royal patent. His roles include Mephistopheles, Hamlet, Coriolanus, King Lear, and a repertory that has been presented not only in England, but in the United States, Australia, and France. He was knighted in 1895. He died suddenly Oct. 13, 1905, and his ashes repose in Westminster Abbey.

Irving, John Beaufain, an American artist; born in Charleston, S. C., Nov. 26, 1825; received a collegiate education; studied art in Dusseldorf under Leutze. He died in New York city, April 20, 1877.

Irving, Pierre Munroe, an American lawyer; born in 1803; nephew of Washington Irving. In 1826, at the request of his uncle, he took charge of publishing the "Life of Columbus" in London; was subsequently literary assistant to his uncle. He was the author of "The Life and Letters of Washington Irving." Died in New York city, Feb. 11, 1876.

Irving, Washington, an American author; born April 3, 1783, in New York, where his father had emigrated from Scotland before the Revolution. He was originally educated for the legal profession and in 1806

was called to the New York bar, but his tastes were all in the direction of literature, in which field he made his first appearance by the publication in 1802 of the "Letters of Jonathan Oldstyle," in the New York "Morning Chronicle," a journal edited by his brother, Dr. Peter Irving. Throughout 1807 he acted as principal contributor to the periodical of "Salamagundi," which terminated in January, 1808, and in December, 1809, appeared his celebrated "History of New York, by Diedrich Knickerbocker." During the war with Great Britain in 1812-1815 he edited the "Analectic Magazine" in Philadelphia, and acted also for a time as aide-de-camp and military secretary to the governor of the State of New York.

In May, 1815, he embarked for England, where he commenced in 1818 the series of papers entitled "The Sketch-book," which were transmitted for publication to New York. Up to 1832 Mr. Irving continued to reside in Europe. During this period were composed some of his most famed literary works. In the spring of 1832 he returned to New York. In 1842 he became United States minister to Spain, and continued in this office till 1846, when he returned home. He died in "Sunnyside," N. Y., Nov. 28, 1859.

Isabella of Castile, daughter of John, 2d king of Castile; born in 1450. By her marriage, in 1469, with Ferdinand, 5th king of Aragon, the two crowns were united. The subsequent conquest of Granada and expulsion of the Moors left Ferdinand and Isabella the first sovereigns of united Spain. Isabella was a princess of remarkable abilities and such rare domestic virtues that her life and conduct became the pattern and example to all the queens and married ladies of the age. It was through Isabella's exertions and influence that Columbus obtained the small armament that enabled him to reach the New World. She died in 1504. Her character is deeply stained by her presence at the cruel burning alive of helpless Jewish men and women on account of their religion.

Isabella II., Queen of Spain; born in Madrid in 1830. The Salic law, which had previously been in force in Spain, was repealed by the Cortes in

order that she might inherit the crown. The death of her father in 1833 advanced Isabella at the age of three years to the throne. Her uncle, Don Carlos, refused to take the oaths of allegiance, and a large portion of the Spanish people supported Don Carlos in his treason, and a civil war at once broke out; which, after raging for nearly seven years, was finally terminated in 1840 by the defeat of the Carlists and expulsion of their chiefs and leaders. At the age of 13 Isabella was declared of age, and at 16 was married to her cousin Don Francisco d'Assisi. Dethroned by the revolution of September, 1868, Isabella left Spain, accompanied in her flight by the king-consort and her four younger children, and took refuge in France. She abdicated in favor of her son Alfonso XII. in 1870, and he succeeded to the throne in 1875. After 1871, Isabella spent the greater portion of her time in Paris, where she was a conspicuous figure until her death in 1904.

Isaiah, one of the greatest of the Hebrew prophets. He was born probably between 788 and 783 B. C. He married a woman to whom, as to him, prophetic gifts were given. Isaiah exerted great influence at the court of Jerusalem under Ahaz, and yet more under Hezekiah. He was contemporary with Amos, Hosea, Micah, and perhaps with Joel. Besides his prophecies, he wrote also biographies or histories of Uzziah, and Hezekiah. Tradition says that he was sawn asunder by order of King Manasseh, his tragic fate, it is supposed, being alluded to in Heb. xi: 37.

Ishim, a town in Siberia, important as a trade center. It is the oldest of Siberian towns. A river and a territory adjacent likewise bear the name.

Ishmael, a son of Abraham, by Hagar, who on the birth of Isaac, son of Sarah, was sent forth from his father's house with his mother. After dwelling in the desert for a long time, he became a great hunter and mighty warrior. The Arabs regarded Ishmael as the father of their nation and the author of their language. He lived 137 years.

Ishmaelites, Ismaelites, or Ismaelians, a Mohammedan sect originating in the 1st century of the He-

gira, and deriving its name from Ishmael or Ismael, one of Ali's descendants. From the 8th to the 12th century they were powerful in the East, and distributed themselves over Irak, Syria, Persia, and Egypt.

Isinglass, a substance that is almost wholly gelatine, 100 grains of good dry isinglass containing rather more than 98 of matter soluble in water. It is obtained principally from Russia, but considerable quantities are also exported from North America, Brazil, and the East Indies. The American isinglass is obtained from the cod, sturgeon, hake, etc.; and the sounds of a great many fish produce it.

Isis, the principal goddess of the Egyptians, the symbol of nature or pantheistic divinity, the mother and nurse of all things. According to the account of Herodotus the Egyptians represented Isis under the form of a woman, with the horns of a cow, as the cow was sacred to her.

Islam, the proper name of the Mohammedan religion; designating complete and entire submission of body and soul to God, His will and His service, as well as to all those articles of faith, commands, and ordinances ordained by Mohammed the prophet. The word Islam is sometimes figuratively applied to the whole Mohammedan world.

Island No. 10, an island in the Mississippi river, at the W. extremity of Kentucky, on the border of Tennessee, about 40 miles below Columbus. It was captured by the Union forces under General Pope in April, 1862.

Isle of Man, in the Irish Channel, equi-distant from England, Scotland, and Ireland. Area, 220 square miles; pop. (1921) 50,288.

Isle of Pines (Isla de Pinos), a dependency of Cuba, near Cape Coventes, the S. W. extremity. Area about 1,200 square miles; pop. 10,000. The island, in general, is a plateau 50 to 100 ft. above sea-level, with hills as high as 1,675 feet. Spacious bays give safe anchorage. Farming and stock raising, lumbering, quarrying, sea fisheries, and tobacco manufactures are carried on. Capital, Nueva Gerona. The agitation of American residents for several years after the Spanish-American War for annexation was settled by the United States Supreme

Court, April 8, 1907, which decided that the sovereignty of the island was vested in the Cuban Government.

Isle of Wight, with the exception of the Isle of Man the largest island in the English seas, lies off the S. coast of the kingdom, separated from Hampshire by the Solent channel. Its extreme length, E. to W. from the Foreland to the Needles, is about 23 miles and its extreme breadth, N. to S., Cowes to St. Catharine's Point, is about 13 miles. The late Queen Victoria had a residence on the Isle of Wight. The area is about 145 square miles.

Isle Royale, an island belonging to Michigan, in Lake Superior, 45 miles long, 9 miles wide; area, 229 square miles. The shores are generally rocky and broken. There are extensive veins of native copper, many of which have been worked in prehistoric times, as they are still.

Ismail Pasha, a Khedive of Egypt, son of Ibrahim Pasha and grandson of Mehemet Ali; born in Cairo in 1830. He succeeded Said Pasha as viceroy in 1863. In 1867 he acquired from the Porte the title of Khedive. Under his mismanagement the country became so involved in debt that he was forced to abdicate. This he did, his son taking his place. He died in Constantinople, March 2, 1895.

Isocrates, a Greek orator and rhetorician; born in Athens in 436 B. C. He opened a school of oratory, the fame of which soon filled all Greece, in consequence of the exceptional attainments of its graduates.

Isonzo, a river of Austria, rises near Mt. Terlgoul, at the junction of the Julian and Carnic Alps, flows tortuously southward, and enters the Gulf of Triest 5 miles from Monfalcone; length, about 75 miles, of which but little is navigable. The river gives its name to one of the greatest and most thrilling campaigns in the World War, that of Italy against Austria, fought in 1917. The Italians had apparently unsurmountable natural obstacles to encounter in the march toward their objectives, Triest and Vienna, but they met with most remarkable early successes in August; afterward, serious defeats. See APPENDIX: *World War*.

Ispahan, a city of Persia, and for-

merly the capital of that empire. It was once so extensive and populous that the Persians said of it, "Ispahan is half the world." It is situated in the province Irak-Ajemi, of which it is the capital. The city, which was at the height of its glory during the reign of Shah Abbas in the 17th century, now presents little beyond the magnificent ruins of its former greatness. Ispahan is the chief commercial emporium of Persia. The inhabitants are considered the best artificers in Persia, and education is very general. Ispahan, under the caliphs of Bagdad, became the capital of Irak, and under Shah Abbas the metropolis of Persia. Under this great monarch, Ispahan was a city 24 miles in circuit, and contained 160 mosques, 48 colleges, 1,800 caravanserais, 273 public baths, and 12 cemeteries, and was inhabited by 600,000 people. Pop. about 80,000.

Israel, the name divinely given to Jacob during the scene at Peniel or Penuel as a memorial that, as a prince, he had power with God and with men and had prevailed. Also the Jewish people; a contraction for Children of Israel or House of Israel.

Israel, Kingdom of. In the reign of Solomon the prophet Ahijah was intrusted with the announcement to Jeroboam that, in punishment for the many acts of disobedience to the divine law, and particularly of the idolatry so extensively practiced by Solomon, the greater part of the kingdom would be transferred to him. This breach was never healed. A spirit of disaffection had long been rife, even in the reigns of David and Solomon, fostered by various causes, not the least among which was the burdensome taxes imposed by the latter monarch for the support of his luxurious court and for the erection of his numerous buildings. But, however much these causes may have operated to create a breach between the N. and S. districts of Palestine, certain it is that God himself expressly forbade all attempts on the part of Rehoboam or his successors to subdue the revolted provinces, and, with slight exceptions, the subsequent history of the two nations still more widely separated them. The precise amount of territory contained in the Kingdom of Israel cannot precisely be ascertained; it was probably about as

nine to four compared with the sister kingdom of Judah; the 10 tribes included in Israel probably were Ephraim and Manasseh, (E. and W.) Issachar, Zebulon, Asher, Naphtali, Gad, Reuben, and part of Dan; the population was probably, at the separation, about 4,000,000. It was not long before the new kingdom showed signs of weakness. It developed no new power, which is not surprising when we consider that it was but a section of David's kingdom shorn of many sources of strength. "The history of the Kingdom of Israel is, therefore, the history of its decay and dissolution." The first symptom of decline was shown in the emigration of many families who adhered to the old religion of the Israelites back to Judah; and to check this Jeroboam set up rival sanctuaries with visible idols 975 B. C., but which only increased the evil he wished to check. As soon as the golden calves were set up the priests and Levites flocked back to Judah, where they were warmly received. Jeroboam's whole policy aimed singly at his own aggrandizement. To supply the want of a priesthood, divine in its origin, a line of prophets was raised up remarkable for their purity and austerity. Jeroboam reigned 22 years; his son Nadab was violently cut off after a brief reign of two years, with all his house and so ended the line of Jeroboam. The fate of this dynasty was but a type of those that followed. Domestic famine, the sword of the foreigner, and internal dissensions helped the tottering kingdom on its downward way, and only one brief era of prosperity occurred, under the sway of Jeroboam II., who reigned 42 years. See JEWS for the subsequent history of the chosen people.

Issus, anciently a town of Cilicia, in Asia Minor, on the Gulf of Issus. Here Alexander of Macedon gained a complete victory over Darius (B. C. 333).

Isthmian Canal. See PANAMA CANAL.

Isthmian Games, public games of ancient Greece, so called because they were celebrated on the Isthmus of Corinth, and having a similar character to the Olympian, Nemean, and Pythian games. The Greeks in general took part in them, and the princi-

pal exercises were boxing, wrestling, foot, horse and chariot races, and throwing the discus. They were celebrated in April and May, in the first and third year of each Olympiad.

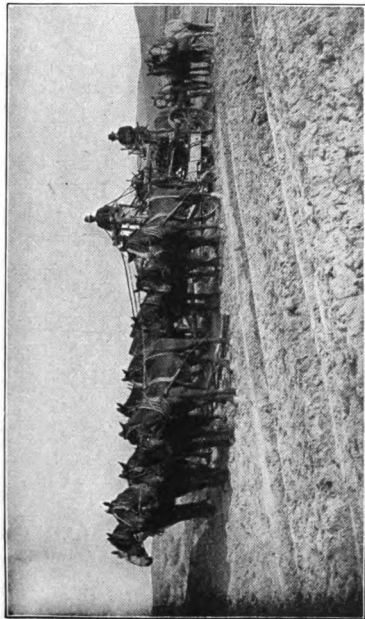
Istria, a peninsula projecting into the north-east corner of the Adriatic Sea; an Austrian margraviate. The surface is mountainous, particularly in the north. Area, with adjacent islands, 1,913 square miles; pop. (Est.) 410,000.

Italy, a kingdom in Southern Europe, consisting in the main of a large peninsula stretching S. between the Adriatic Sea and the W. part of the Mediterranean, but also including a considerable portion of the mainland and some of the adjacent islands. It is bounded on the N. by the Alps, which separate it from Austria and Switzerland, except at the district lying to the N. of Lake Garda, where its frontier does not follow the line of the Alps; on the W. by France, from which it is separated along the larger part of the frontier line by the Graian, Cottian, and part of the Maritime Alps, and by the Mediterranean; on the S. by the Gulf of Taranto and the Mediterranean; and on the E. by the Adriatic and a portion of the Austro-Hungarian empire. It is comprised between lat. 36° 40' and 46° 40' N., and between lon. 6° 35' and 18° 35' E. The principal islands belonging to it are Sicily and Sardinia; the others include the Lipari Islands, Capri, Ischia, Giglio, Monte Cristo, Elba, etc. Rome is the capital.

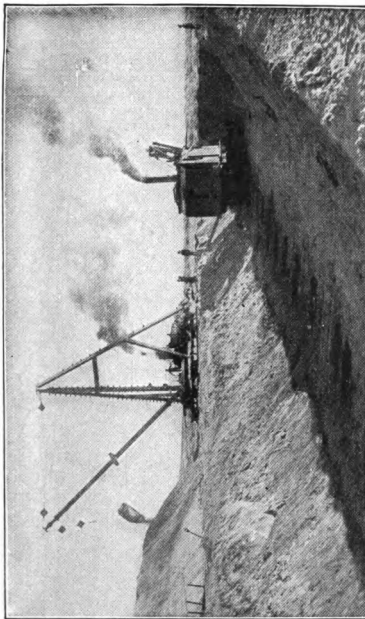
For administrative purposes the kingdom of Italy is divided into 69 provinces, of which 60 are divided only into territories, 5 into territories and districts, and 4 only into districts. There are 205 territories and 71 districts.

The total area of Italy is 117,982 square miles, and the pop. (1928) 41,173,000. This includes Sicily and the island of Sardinia. Italy also possesses the colony of Eritrea with 670 miles of coast line on the African shore of the Red Sea, and some territory in Somaliland. The total area of these possessions is 185,230 square miles.

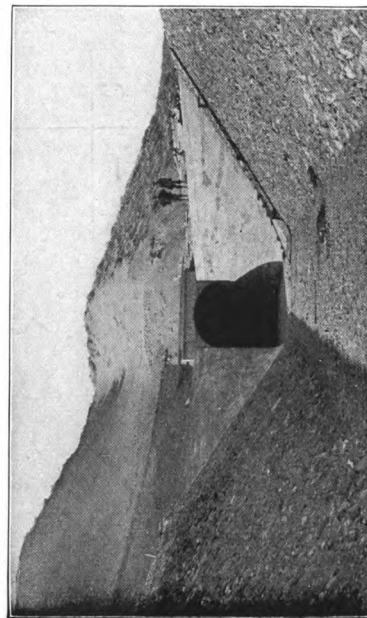
The fauna of Italy differs little from that of the other countries of Europe



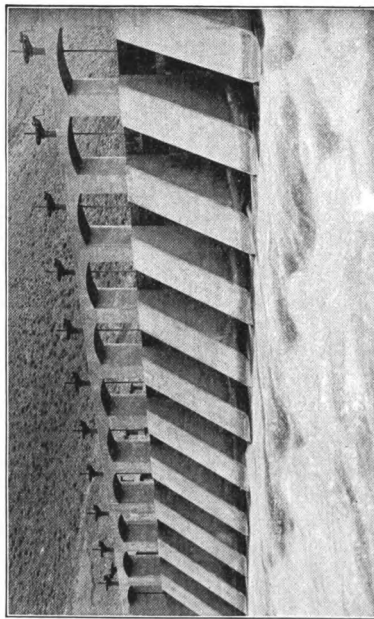
GRADING FOR CANAL



DIGGING CANAL



SUNKEN CANAL



DIVISION DAM AND GATES

IRRIGATION



ITALY
showing
NEW BOUNDARIES
Scale of Miles
0 10 20 30 40 50 100

Railroads ———
Size of type indicates relative
importance of places

Italy

situated in the same latitude. Its mountains afford a retreat to the lynx, chamois, brown bear, and wolf, while among those of Sardinia is found the moufflon or wild sheep. The porcupine is very generally found in the Apennines. The pale red fox (different from the common species) and the blind mole are also found. The birds, which are very numerous, comprise most of the species of Central Europe, a large number of those belonging to the E. part of Europe, and some African birds, especially the Egyptian vulture. Among the reptiles are the common viper and the asp; other noxious creatures are the scorpion and the tarantula. The marine fauna of Italy is also very comprehensive, including all the varieties of fish which are found in the Mediterranean. The fisheries embrace anchovies, sardines, tunnies, swordfish, etc. The coral polyp (among other species the madrepora) is also of economic importance, there being a large number of persons employed in the coral fishery.

The natural productions of the soil of Italy are as various as its climate. In the Alpine regions all the plants belonging to cold climates flourish, while the S. regions possess a real tropical flora. Among trees are pines and firs, especially the stone pine, with edible seeds; the evergreen and other oaks, the chestnut, the poplar, etc. The olive, mulberry, fig, orange, citron, pomegranate, pistachio, jujube, and date grow in the S. and in suitable places in the N. In the extreme S. the cotton plant, sugar cane, Indian fig, agave, and other tropical plants are cultivated. Everywhere is seen the vine. The other vegetable products are common to Italy and the rest of Europe. Agriculture forms the chief support of the population, and the land is very productive in almost all parts of the kingdom.

Since the consolidation of the Italian kingdom the manufactures of the country have made considerable advances, especially in the department of Tuscany and the Northern provinces. They now afford support to 13 per cent. of the whole population.

The rearing of silkworms is more largely carried on in Italy than in any other country in Europe. Over 2,000,000 spindles are employed in spinning the silk, and the weaving is

Italy

a very extensive branch of manufacture in Como, Genoa, Caserta, Milan, Turin, Florence, and Naples. Silk industries employ over 170,000 hands.

The constitution of the kingdom of Italy is a limited monarchy. It is based on the fundamental statute of March 4, 1848, fixing that of the kingdom of Sardinia. The throne is hereditary in the male line of the royal house of Savoy. The king attains his majority on completing his 18th year. He exercises the power of legislation only in conjunction with a National Parliament, consisting of two chambers. The first chamber is called the Senate, and is composed of the princes of the blood, and an indefinite number of members appointed for life by the king. These last must be above 40 years of age, and must be distinguished either by holding or having held some high office either in Church or State, or by eminent services in literature, science, art, or any other pursuit tending to the benefit of the nation, or they must have paid a sum not less than 3,000 lire in annual taxes. In 1916 the Senate had 410 Senators and 6 princes. The second chamber is called the Chamber of Deputies, and consists of 508 members, who are elected by a majority of all the citizens above 21 years of age who are in the enjoyment of civil and political rights, can read and write, and who pay direct taxes to the State or the provincial administration to the amount of 20 lire (1 lira = 19.3 cents) yearly. Certain persons enjoy the franchise independently of the taxation test, such as members of learned academies and of chambers of commerce, professors, State officials, members of knightly orders, doctors, advocates, etc. For the election of the members of the chamber of deputies the whole country is divided into electoral colleges or districts. Any one who has the right of voting and has completed his 30th year may be elected, unless he be a clergyman or an officer of State. Some officers of State, however, may be elected.

The executive power of the State is exercised by the king through responsible ministers forming a council of ministers. In addition to this there is a State Council possessing consultative powers, and authorized to decide on questions of competence arising be-

tween the administrative departments and the law courts, as well as in cases of dispute between the State and its creditors. There are 12 departments in the Government: (1) the ministry of foreign affairs, to which is attached the diplomatic council; (2) the ministry of the interior, with the supreme sanitary council, and the command of the national guard; (3) the ministry of justice and ecclesiastical affairs; (4) the ministry of finance, with the permanent council of finance; (5) the ministry of the treasury; (6) the ministry of war; (7) the ministry of marine, with the supreme council for naval affairs; (8) the ministry of public instruction, with the supreme council of instruction; (9) the ministry of public works and the supreme council for public works; (10) the ministry of agriculture, manufactures, and commerce, with the councils for trade and manufactures, agriculture, mines, and woods and forests; and (11) the ministry of posts and telegraphs; (12) the ministry of the colonies. There is one minister without portfolio.

The unification of modern Italy came about gradually, but by a strong, popular impulse. Early in the nineteenth century the peninsula was divided up into petty states, whose princes and grand-dukes almost always misgoverned their people in such a way as to make their names detested throughout all Italy. Moreover, the Austrians exercised an insolent sway in the North, and the kings of Naples and Sicily became monstrous by their cruelty.

Not all Italy, however, was so badly governed. Sardinia was a kingdom at whose head Charles Albert was wise and patriotic. The same was true of the Grand Duchy of Tuscany; and all through the peninsula were those who looked forward to a regeneration of the Italian people. Agitators went from city to city fomenting the popular discontent. In time, the Pope himself (Pius IX.), who was young and enthusiastic, granted a constitution to the Papal States. This action electrified all Italy. The Austrians moved their troops into the North to strengthen their power, and Sardinia declared war upon them. The opposing armies met at Novara (1849), and the Sardinians were routed. Charles Albert took this so much to heart that he abdicated in

favor of his son, Victor Emanuel, a bluff, war-like prince, who swore on his sword as he was retreating from Novara, "By Heaven, there shall be an Italy!"

From that time the new king, aided by his immensely able minister, Cavour, sought alliances and friendships on every side. During the Crimean War Sardinia sent its troops to help the French. After the Crimean War, when France made war on Austria, Sardinia, which had now grown to larger proportions, cast in its lot with France; and, when France won the victory, Sardinia received a large portion of Italian soil, so that its territory extended as far as Venice and the kingdom became "the kingdom of Italy." In 1866, Italy sided with Prussia against Austria and won more territory, though it made no great show at fighting.

In 1870, when France and Prussia were at a deadlock, Victor Emanuel sent an army down through the peninsula and took possession of the temporal part of Rome. He left the Pope absolute control of the so-called Leonine part of the city, containing St. Peter's and the Vatican, and a large strip of other territory. The Italian Parliament presently passed a law granting the Pope sovereign power and distinct recognition, the same as was held by any monarch; and voted him also a yearly income of about \$700,000. His person was also declared to be sacred and inviolable.

King Victor Emanuel was now monarch of all Italy, and he proceeded with much vigor to institute a great number of reforms. While engaged in this task he died, leaving the throne to his son Humbert I. His reign was marked by trouble with the anarchists and the disorderly elements throughout the kingdom, from whose punishment, however, he did not shrink. He founded an Italian colony on the East African coast and encroached upon the territory of Abyssinia. The Abyssinians attacked the Italian army at Adowa and routed it completely, which practically put an end to Italian advances in East Africa. About this time King Humbert was assassinated by an anarchist. His son, King Victor Emanuel III., after a number of years of energetic government, renewed the scheme of African colonization. He made a pretext for declaring war &

Ithaca

Turkey, Sept. 29, 1911. Italy occupied Tripoli city, Oct. 5; subsequently took several Turkish islands; and signed peace, Oct. 19, 1912, getting practical control of all Tripoli. On May 23, 1915, she declared war against Austria-Hungary; on Oct. 19, following, against Bulgaria; on Aug. 28, 1916, against Germany.

Territory added to Italy on account of her participation in World War: Venezia Irredentia, 4,027 sq. m.; Gorizia and Gradisca, 1,138 sq. m.; Trieste, 37 sq. m.; Istria, 2,037 sq. m.; Zara and Salmatian Islands, 113 sq. m.; total, 7,350 sq. m. She also annexed part of Ger. East Africa.

Ithaca, city and capital of Tompkins county, N. Y.; on Cayuga lake and the Lackawanna and other railroads; 89 miles S. E. of Rochester; is in a region abounding in grand scenery, including Taughannock Falls, Enfield Falls, Buttermilk Falls, Slaterville Springs, and Fall Creek Gorge; much general commerce on the Erie canal which passes through the lake; and is the seat of Cornell University. Pop. (1930) 20,708.

Ithaca, now Thiaki, one of the Ionian Islands, on the W. of Greece, between the mainland and Cephalonia, 17 miles long, and not above 4 broad. It is rugged and uneven, and divided into two nearly equal parts connected by a narrow isthmus. The inhabitants are industrious agriculturists and mariners, and build and fit out a considerable number of vessels. They seem to be of pure Greek race, and the women are famed for their beauty. Ithaca was the royal seat of Ulysses, and is minutely described in the *Odyssey*. Pop. about 11,000.

Ito, Marquis Hirobumi, a Japanese statesman; born in the province of Choshiu, in 1840. In 1871 he visited the United States for the purpose of examining the coinage system, and on his return to Japan was successful in establishing a mint at Osaka. In 1878 he was transferred from the office of Minister of Public Works to the Home Office. He became prominent in the Japanese cabinet in 1886 and made many reforms. In 1897-1898 he made a tour of the United States and Europe. In the latter year he visited China to arrange an alliance between that country and his

Ivory

own, and in 1900, on the resignation of the Yamagata ministry, he was summoned by the Emperor to form a cabinet. He revisited the United States in 1901. Assassinated Oct. 26, 1909.

Iturbide, Augustin de, a Mexican soldier; born in Valladolid, Mexico, in 1787. On the breaking out of the revolutionary troubles in Mexico he joined the royalist party and displayed such valor and ability that in 1815 he rose to the chief command of the army, but latterly went over to the other side, quickly bore down all opposition, and became so popular that he proclaimed himself Emperor of Mexico in 1822. His reign was full of trouble and came to an end in less than a year by his abdication. He was arrested and shot, in Padilla, July 19, 1824.

Ivan, the name of two grand dukes and four czars of Russia. The best known, Ivan IV. (1530-1584), commonly called Ivan the Terrible, reigned from 1533. He was the first Russian sovereign to be crowned as Czar. He subdued Kazan and Astrakhan, and from his reign dates the first annexation of Siberia. He was guilty of the most horrible cruelties, and exterminated whole families. He left a singular document asking for divine mercy for his victims. Ivan died of sorrow for his son, whom he had slain.

Ivangorod, a town in Russian Poland, on the right bank of the Vistula, 64 miles by rail S. E. of Warsaw; with Warsaw, Nova-Georgievsk, and Brest-Litovsk, forms the Polish quadrilateral. It is strongly fortified, having nine forts on the right bank of the Vistula and three on the left. See APPENDIX: *World War*.

Ives, Frederic Eugene, an American inventor; born in Litchfield, Conn., Feb. 17, 1856; received a public school education; was director of the photographic laboratory at Cornell University in 1874-1878. His inventions include the process of half-tone photo-engraving (1878); the three-color printing process in the typographic press; etc.

Ivory, the osseous matter of the tusks of the elephant, and of the teeth or tusks of the hippopotamus, walrus, and narwhal. Ivory is esteemed for its beautiful white or cream color, its hardness, the fineness of its grain, and its susceptibility of a high polish.

Ivory Black

Ivory Black, a name for burnt bone, which forms a mixture of charcoal and phosphate of lime. Like other forms of animal charcoal, it is very effective in depriving certain substances of their color and odor.

Ivory Coast, a part of the N. coast of the Gulf of Guinea, West Africa, embraces the districts between Cape Palmas and the river Assini. Its W. portion belongs to Liberia; its E., now counted as part of the Gold Coast, is shared between Great Britain and France.

Ivory Palm, a low growing, palm-like plant, native of the warmer parts of South America.

Ivry, a village of over 1,100 inhabitants in the French department of Eure. On the Plain of Ivry was fought, March 14, 1590, the famous battle between Henry of Navarre and the armies of the League.

Ivy, a climbing plant. The leaves are smooth and shining, varying much in form, from oval entire to three and

Izard

five lobed; and their perpetual verdure gives the plant a beautiful appearance. The flowers are greenish and inconspicuous, disposed in globose umbels, and are succeeded by deep green or almost blackish berries. The ivy has been celebrated from remote antiquity, and was held sacred in some countries, as Greece and Egypt.

Ixion, a treacherous King of Thes-saly, who, having basely destroyed his father-in-law, was so execrated by his subjects that Jupiter in pity took him to heaven; but Ixion becoming enamored of Juno, Jupiter hurled him with his thunder into the infernal regions and had him chained to a wheel in perpetual motion, his punishment thus being eternal.

Izard, Ralph, an American patriot; born in 1742. He was very wealthy and during the Revolution pledged his estate to buy ships of war. He was the first United States Senator from South Carolina. He died in 1804.

J



j, the 10th letter and the 7th consonant of the English alphabet. The character **j** designates very different sounds in the different languages. In English it has the same sound as **g** in genius.

Jabalpur, chief town of Jabalpur district, Central Provinces, India. Jabalpur is one of the most important railway stations in India. It is the second commercial town in the Central Provinces; has a trade worth about \$10,000,000 annually. Pop. (1921) 108,793. The district of Jabalpur has an area of 3,918 square miles, and a population of 687,233.

Jacamar, the name generally given to a sub-family of kingfishers. The jacamars have the bill less stout than the typical kingfisher. Their body also is more slender; the tail long. They are bright-colored birds, generally. They are found in the tropical parts of South America and in the West Indies.

Jacana, a wading bird; a genus of grallatores. They are very light birds; and the wide surface over which their toes extend enables them the more easily to procure their food, consisting of worms, small fishes, and insects, by walking on the leaves of aquatic plants which float on the water. Various species of the jacana are spread over the tropical regions.

Jacaranda Wood, a very hard, heavy, brown wood, also called rosewood—though not the true rosewood of commerce—from its faint, agreeable smell of roses. It is brought from South America.

Jacchus, monkeys of small size, commonly known as marmozets, ouistitis, and tamarins, with short muz-

zle, flesh colored face, and round head. The five fingers are armed with claws, except the thumbs of the posterior extremities, which have nails; fur very soft; tail full and handsome. Length of body about 8 inches; tail 11. General color olive-gray; head and shoulders nearly black; the tail and lower part of the back are annulated with pale gray; and two tufts of pale hair grow round the ears. They are squirrel-like in their habits, and omnivorous, feeding on roots, seeds, fruits, insects, snails, and young birds. Natives of Guiana and Brazil.



JACANA OF SOUTH AMERICA.

Jacitara, a tree palm, 50 or 60 feet high, with a stem as thin as a cane. It grows along the Amazon and the Rio Negro.

Jackal, an animal presenting a close affinity to the dog. It is yellowish-gray above, whiter underneath, the tail is bushy and at its extremity tip-

Jackson

ped with black. The jackal inhabits Africa, Southern Asia, and Europe.

Jackson, city and capital of Jackson county, Mich.; on the Grand river and the Michigan Central and other railroads; 37 miles S. of Lansing; is in a bituminous coal-mining region; has large grain and fruit interests; manufactures cotton and woolen goods, bridge-work, engines, and wagons. Pop. (1930) 55,187.

Jackson, city and capital of Hinds county and of the State of Mississippi; on the Pearl river and the Illinois Central and other railroads; 40 miles E. of Vicksburg; is in a rich cotton and general farming section; is chiefly engaged in shipping cotton and in industries connected with cotton, lumber and farming; and is the seat of Millsaps, Belhaven, Jackson Baptist and Mary Holmes Industrial colleges and several State institutions. Pop. (1930) 48,282.

Jackson, city and capital of Madison county, Tenn.; on a branch of the Forked Deer river and the Illinois Central railroad; 90 miles N. E. of Memphis; is in a cotton, corn, and wheat section; has woolen and cottonseed oil mills, engine and boiler works, and many artesian wells. Pop. (1926 wells. Pop. (1930) 22,172.

Jackson, name of a fort in Louisiana, on the Mississippi, 80 miles below New Orleans. During the Civil War, it was fortified by the Confederates with Fort St. Philip on the opposite side of the river. In 1862, the Federal fleet under Farragut engaged both forts, and reached New Orleans.

Jackson, Andrew, an American statesman and soldier; 7th President of the United States; born in the Waxhaw Settlement, N. C., March 15, 1767. His education was very limited, and he was not given to study. After serving a short apprenticeship with a saddler, at the age of 18 he entered a law office in Salisbury to prepare for the law. His practice was large and prosperous. In 1791 he married Mrs. Rachel Robards. Tennessee was admitted to the Union in 1796, and Jackson was sent as its Representative to Congress. He was elected to the Senate in 1797, but resigned his seat in 1798 to become judge of the Tennessee Supreme Court,

Jackson

where he served six years. When the War of 1812 broke out, he offered his services to Madison, then President, with 2,500 volunteers of Tennessee militia, of which he was commander-in-chief. In 1814 Jackson was made a Major-General and put in command of the Department of the South. He asked permission to drive the British out of Florida, where, by Spanish permission, they had established a base of operations. Failing to receive an answer because of the capture of Washington by the British, Jackson proceeded on his own responsibility. He repulsed the enemy at Mobile, took Pensacola by storm, and then marched to New Orleans, where he fortified the city. A force of 12,000 of Wellington's veterans, relieved by the victory of Waterloo for American service, landed below the city. Jackson had 6,000 men to meet them, but they were well protected by breastworks. The British general, Pakenham, resolved to take the defenses by storm. Jackson's victory was complete. The British were repulsed in half an hour, with a loss of 2,600 men, Pakenham himself being among the slain. This great and decisive victory, achieved with but the loss of eight men, coming in the wake of several reverses to the American cause, made Jackson the hero of the nation. When, in 1819, the United States purchased Florida, Jackson was appointed governor. In 1823 he was elected to the United States Senate. In 1824 he was nominated by the Federalist and by the Republican convention for the presidency. The election went to the House of Representatives, which chose John Quincy Adams. But in 1828 Jackson was again nominated, beating Adams by a large electoral and popular majority. His administration was memorable and stormy. He introduced the theory that "to the victors belong the spoils," and made wholesale removals of Federal officials to make room for his own appointees. South Carolina, under the lead of John C. Calhoun, the Vice-President, attempted to nullify the tariff law, calling a convention Nov. 19, 1833, which declared the law unconstitutional. Jackson sent a naval force under Farragut to Charleston harbor. He attacked the United States Bank, opposing the renewal of its charter, which would expire in 1836. He ve-

toed the bill renewing the charter. He was reelected in 1832 by largely increased majorities. He succeeded in securing the removal of the public funds from the United States Bank to various State banks. After his second term of office as President, Jackson lived mostly in retirement at "The Hermitage" near Nashville, where he died June 8, 1845.

Jackson, Charles Thomas, an American scientist; born in Plymouth, Mass., June 21, 1805; was graduated at Harvard Medical College in 1829. He claimed to have been the first to point out, in 1832, the applicability of electricity to telegraphic use, and also claimed to have been the discoverer of the anæsthetic effects of the inhalation of ether in 1842; received the Montyon prize of 2,500 francs from the French Academy of Sciences in 1852. He died in Somerville, Mass., Aug. 28, 1880.

Jackson, Dugald Caleb, an American inventor; born in Kennett Square, Pa., Feb. 13, 1805; was graduated at the Pennsylvania State College in 1835, and studied engineering at Cornell University; became connected with Edison interests in 1889; later was made chief engineer of the central district of the Edison General Electric Company; designed and built many large lighting plants and electric railways. He is the author of "A Text-book on Electricity and Magnetism and the Construction of Dynamos" (1893); etc.

Jackson, Helen Maria Fiske Hunt, an American author; born in Amherst, Mass., Oct. 18, 1831; received an academic education; went with her husband to Colorado Springs, Colorado; became actively interested in the treatment of the Indians by the government, and strove to better their condition; was appointed a special commissioner to investigate the condition of the Mission Indians of California in 1883, and studied the history of the early Spanish missions. She died in San Francisco, Cal., Aug. 12, 1885.

Jackson, Howell Edmonds, an American jurist; born in Paris, Tenn., April 8, 1832. He was graduated at West Tennessee College in 1848; was elected United States Senator from Tennessee in 1881; appointed a United

States Circuit Court judge in 1886, and a justice of the United States Supreme Court in 1893. He died in West Meade, Tenn., Aug. 8, 1895.

Jackson, Sheldon, an American educator; born in Minaville, N. Y., May 18, 1834; was graduated at Union College in 1855, and at Princeton Theological Seminary in 1858; ordained in the Presbyterian Church. He was made United States general agent for Alaska in 1885; introduced reindeer into that territory in 1891; special United States agent to influence Laplanders to colonize in Alaska in 1898. He was moderator of the General Assembly of the Presbyterian Church in 1897. In 1896 he presented \$50,000 to the University of Utah. Died 1909.

Jackson, Thomas Jonathan, an American military officer; born in Clarksburg, Va., Jan. 21, 1824; was graduated at the United States Military Academy in 1846; served through the Mexican War with great distinction, winning promotions more rapidly than any other officer of his grade during that war. When the Civil War began, he was commissioned colonel in the Virginia forces; was placed in command of the Virginia brigade. Soon after he was commissioned Brigadier-General. In the first battle of Bull Run he won his new name "Stonewall" when Gen. Bernard E. Bee, in the crisis of the fight, shouted: "See, there is Jackson standing like a stone wall; rally on the Virginians!" In recognition of his gallantry he was promoted Major-General and placed in command of the district that included the Shenandoah valley and the section of Virginia N. W. of it. During the winter he drove the National forces out of his district. In March, 1862, he fell back before Banks' army of 35,000 men, moved up the valley and took a strong position in Swift Run Gap. Then followed in rapid succession the uniting of Ewell's division with his at Luray, the driving in of Banks' flank at Front Royal, the cutting of his retreating column at Middletown, and on May 25, the rout of Banks' army from the heights of Winchester. His capture of Harper's Ferry with 11,000 prisoners, 13,000 stand of small arms, 73 pieces of artillery, and large quantities of provisions and stores of every description, and his

Jacksonville

conduct on the field of Sharpsburg, all added greatly to his fame.

He was promoted Lieutenant-General in October, 1862; and at Fredericksburg repelled the attack of Franklin. In April, 1863, he was sent to make a march to Hooker's flank and rear. This was brilliantly executed and Jackson was proceeding to cut off Hooker's line of retreat when he was mistakenly fired on by his own men and severely wounded. His wounds were dressed, and he was improving hopefully, when pneumonia developed and caused his death, May 10, 1863.

Jacksonville, city, port of entry, capital of Duval county, and metropolis of the State of Florida; on the St. Johns river and the Atlantic Coast Line and other railroads; 25 miles W. of the ocean; has an excellent harbor and extensive domestic and foreign commerce in cotton, sugar, naval stores, lumber, phosphate, fruit, and vegetables; is a popular health and winter resort; and is chiefly engaged in the manufacture of cigars and lumber. Pop. (1930) 129,549.

Jacksonville, city and capital of Morgan county, Ill.; on the Wabash and other railroads; 33 miles W. of Springfield; manufactures woolen goods, and bridge, machine, brass and iron work; is the seat of the State Central Hospital for the Insane, State Institutions for the Deaf, Dumb and Blind, Illinois College (Pres.), Illinois Female College, State Conservatory of Music, and School of Fine Arts. Pop. (1930) 17,747.

Jacobi, Karl Gustav Jakob, a German mathematician; born in Potsdam, Dec. 10, 1804. Jacobi excelled in analytical mathematics; his name is best known from his discovery of elliptic functions. He died in 1851.

Jacobi, Moritz Hermann, a German physicist; born in Potsdam, Prussia, Sept. 21, 1801. He invented the process of electrotyping in 1839, and the application of electromagnetism as a motive power. He died in St. Petersburg, March 10, 1874.

Jacobin Club, a political organization which bore a prominent part in the French Revolution. It was formed by some distinguished mem-

Jacob's Ladder

bers of the First Assembly, particularly from Brittany, where revolutionary sentiments ran high. They took at first the name of Friends of the Revolution; but, as at the end of 1789 they held their meetings in the hall of a suppressed Jacobin monastery in the Rue Saint Honore, the name of Jacobins, at first familiarly given to them, was finally assumed by themselves. The history of the Jacobin Club is, in effect, the history of the Revolution. It contained at one time more than 2,500 members, and corresponded with more than 400 affiliated societies in France. After the destruction of the Girondists under the Convention, the club was again exclusively governed by the more violent among its own members till the downfall of Robespierre. After that period it became unpopular; and its members having attempted an insurrection on behalf of the subdued Terrorists, Nov. 11, 1794, the meeting was dispersed by force and the club finally suppressed.

Jacobite, a term first applied in England to the party which adhered to James II. after the Revolution of 1688, and afterward to those who continued to maintain sentiments of loyalty toward the house of Stuart, and sought to secure the restoration of that family to the English throne.

In ecclesiastical history, a Christian sect which arose during the 5th century and maintained that Christ had but one nature. They were thus named from Jacob Baradaeus, Bishop of Edessa and apostle of the East, who restored the sect about 545. They finally ceased to exist about 1247.

Jacobs, Henry Eyster, an American clergyman; born in Gettysburg, Pa., Nov. 10, 1844. He was graduated at Pennsylvania College and Lutheran Theological Seminary. He held important professorships and after 1883 was dean of the faculty at Lutheran Theological Seminary. He wrote "Life of Martin Luther," etc.

Jacob's Ladder, a herbaceous perennial plant found in the temperate parts of North America. It is also found in Europe and Asia. Great medicinal virtues were once ascribed to it, but the only quality which it seems to possess is a slight astringency.

Jacotot, Jean Joseph, a French educator; born in 1770; died in 1841. His method of instruction, purely empirical, was based on his experience in teaching French to Flemish boys, whose language he did not understand. His rule, insisted upon in learning, was "Learn, repeat, reflect, verify."

Jacquard, Joseph Marie, a French inventor; born in Lyons in 1752. His parents were silk weavers and he learned the same trade. After a long period of hardship, during which he shared in some of the campaigns of the French Revolution, he made his name famous by the invention of his new loom, which was publicly exhibited in 1801. He died in 1834.

Jacquemont, Victor, a French botanist; born in Paris, Aug. 8, 1801; studied botany under Adrien de Jussieu; visited North America, Haiti, England, and the East Indies twice, penetrating on his last visit the Chinese Tartary. He died in Bombay, Dec. 7, 1832.

Jacquerie, a name popularly given to a revolt of the French peasantry against the nobility, which took place while King John was a prisoner in England in 1356. Jacques Bonhomme was a term of derision applied by the nobles to the peasants, from which the insurrection took its name. It was suppressed after some weeks.

Jade, a name applied to about 150 varieties of ornamental stones, but should be properly restricted to the mineral nephrite, so called from the Greek nephros because it was supposed by the ancients to have virtue in renal diseases. True jade is a native silicate of calcium and magnesium, tough, and of various shades of green, yellowish-gray, and greenish-white. It is principally found in China, Siberia, New Zealand and Alaska. A collection of carved jade in the Metropolitan Museum of Art, New York city, is the finest in the world.

Jaffa, or Joppa, a town on the sea coast of Syria, 33 miles N. W. of Jerusalem. Hence Jonah sailed for Tarshish; here Peter had his vision. Under Constantine the place, as the great landing place of the Crusaders, was taken and retaken by Christian and Moslem. In 1799 Napoleon stormed it and massacred his prison-

ers; in 1832 it was taken by Mehemet Ali, and restored to the Turks by British help. Pop. about 45,000.

Jager, Oskar, a German historian; born in Stuttgart, Oct. 26, 1830. As an educator he attained prestige and official position; while his "History of Recent Times, from the Congress of Vienna to Our Own Day" (1874-1875) is an acknowledged masterpiece. He died in 1910.

Jagersfontein Excelsior, The, the largest known diamond in existence; found in the mine of the Jagersfontein Company, Orange Free State, South Africa, June 2, 1893, and now in London, England; weight, 971 carats; color, blue white. It is almost perfect.

Jaggat, Thomas Augustus, an American clergyman; born in New York city, June 2, 1839; graduated at the General Theological Seminary; ordained deacon in the Protestant Episcopal Church in 1860; consecrated Bishop of Southern Ohio in May, 1875. He died Dec. 13, 1912.

Jaggery, a coarse brown sugar made in the East Indies by the evaporation of the juice of several species of palms. It is chemically the same as cane sugar.

Jaguar, a ferocious looking feline animal, a little larger than a leopard, which it resembles in color, except that in the jaguar the spots are arranged in larger and more definite groups. It is found in the S. part of the United States, through Mexico, Central America, and Brazil, as far S. as Paraguay.

Jains, or Jainas, the name of a religious sect among the Hindus. They are very numerous in the Southern and Western provinces of Hindustan, and are principally engaged in commerce. It is believed that Jainism is of much later origin than Buddhism or Brahmanism, and that it did not rise into importance till the 8th and 9th centuries of our era. It seems to partake of both of these earlier worship, and was probably an attempt to reconcile Buddhism with Brahmanism. They number about 1,500,000, and are found throughout Hindustan.

Jalap (so called from Jalapa, in Mexico, whence it is imported), the name given to the tuberous roots of a

twining herbaceous plant growing naturally on the E. declivities of the Mexican Andes at an elevation of from 5,000 to 8,000 feet. The jalap of commerce consists of irregular ovoid dark-brown roots, varying from the size of an egg to that of a hazel nut, but occasionally as large as a man's fist.

Jamaica, one of the West India Islands, 80 or 90 miles S. of Cuba, the third in extent and the most valuable of those belonging to Great Britain; 146 miles in length E. to W., and 49 miles broad at the widest part; area, 4,450 square miles; pop. in 1921, 863,800. It is divided politically into three counties—Cornwall, Middlesex, and Surrey; its capital is Kingston; pop. in 1921, 62,562. The island as a whole is very beautiful, and much of it is fertile. The coast is indented with a number of good harbors, of which Port Royal or the harbor of Kingston is the most considerable. The interior is traversed by lofty mountains in all directions; the principal chain, called the Blue Mountains, reaching the height of 7,270 feet. The declivities are steep, and covered with stately forests. Jamaica is well watered, having numerous rivers and springs. Earthquakes of a violent nature are frequent; that of Jan. 14, 1907, almost totally destroyed Kingston, the capital. The coast districts are hot, the hills cool and temperate. The climate, generally, is healthful. There are two rainy and two dry seasons. Among the indigenous forest trees are mahogany, lignum vitæ, ironwood, logwood, brazilletto, etc. The native fruits are numerous, and many of them delicious; they include the plantain, guava, custard apple, pineapple, sour sop, sweet sop, papaw, cashew apple, etc. The orange, lime, lemon, mango, grape, bread fruit tree, and cinnamon tree have all been naturalized in the island. The chief cultivated vegetable products are sugar, coffee, maize, pimento, bananas, and other fruits, ginger, arrow root. Sweet potatoes, plantains, and bananas form the chief food of the blacks. The cinchona tree has been introduced, and is spreading. Of wild animals only the agouti and monkey are numerous. Domestic fowls thrive well, and cattle-raising has become profitable. Fish abound in the sea and rivers.

The exports and imports had a combined value of \$21,000,000 in 1921, sugar, rum, coffee, dyewoods, fruit, and pimento being the chief of the former, and clothing and other manufactured goods of the latter. The Government is vested in the governor, assisted by a privy council, and a legislative council composed of 29 members, 14 elected, the others nominated or ex officio. Education is rapidly extending; public schools (1927) 670 elementary schools; students, 76,990. Also secondary schools, 3 training colleges for women, 1 for men.

Jamaica was discovered by Columbus in 1494, in his second expedition to the New World. In half a century the cruelty of the Spanish conquerors exterminated the natives. It was taken by Cromwell in 1655, and ceded to England by the treaty of Madrid in 1670, and has since then remained a British possession.

James, a name of two, if not three, persons mentioned in the New Testament. (1) James, the son of Zebedee, and brother of the Evangelist John. Their occupation was that of fishermen. We find James, John, and Peter associated on several interesting occasions in the Saviour's life. James was the first martyr among the apostles. He is the patron saint of Spain, there being a groundless legend of his having planted the Gospel in that country. (2) James, the son of Alphaeus, one of the 12 apostles. His mother's name was Mary; in the latter passage he is called James the Less, either as being younger than James the son of Zebedee, or on account of his low stature. (3) James, "the brother of the Lord" (Gal. i: 18). Whether this James is identical with the son of Alphaeus is a question which cannot be considered as decided. It is probable, however, that he was a different person.

Epistle of St. James.—The first of the general epistles. The apostle James, the son of Zebedee, died too early to have been its author. It was penned by either James, the son of Alphaeus, or James the brother of our Lord, if the two were different; by the apostle who bore both designations if they were the same. It was addressed to the 12 tribes scattered

abroad, i. e., to the Jewish converts to Christianity beyond the limits of Palestine. Its date is uncertain.

James IV., King of Scotland, born March 17, 1472, was son of James III. by Margaret, daughter of the King of Denmark, and was thus in his 16th year when he succeeded to the throne. In 1503 he married Margaret, daughter of Henry VII., King of England, and thus for a time put an end to the unnatural hostility between the two countries.

Unfortunately, however, on the accession of Henry VIII. to the English crown in 1509, the relations between the two courts became less friendly, and at length strained relations were followed by open war in 1513. James set out for the South at the head of an army of 60,000 men. He crossed the border, took several castles, and had occupied a strong position, when the Earl of Surrey, with an army about equal to his own, but better trained, advanced to oppose him. The battle fought on Sept. 9, 1513, and only too well known as that of Flodden Field, terminated after a sanguinary conflict of three hours in the total defeat with heavy loss of the Scots. James and a large portion of his nobility were among the slain. He died in the 42d year of his age and 26th of his reign. His marriage to Margaret resulted in the union of the crowns under his descendants, James the Sixth of Scotland, and First of England.

James V., King of Scotland; born in Linlithgow, April 10, 1512; succeeded in 1513, at the death of his father, James IV., though only 18 months old. His mother, Margaret of England, was named regent during his childhood, but the period of his long minority was one of lawlessness and gross misgovernment. In 1536 he visited the court of France and on Jan. 1, 1537, he married Madeleine, daughter of Francis I., but the queen died shortly after. He afterward married Mary of Lorraine, daughter of the Duke of Guise and widow of Louis of Orleans. He died on Dec. 16, 1542, seven days after the birth of his unfortunate daughter, Mary, Queen of Scots. To him Scotland owes the foundation of the College of Justice, which developed into the Court of Sessions.

James I. of England and VI. of Scotland; born in Edinburgh Castle, June 19, 1566; was the only child of Mary Queen of Scots, by her cousin Henry Stuart, Lord Darnley. In the following year, Mary being forced to resign the crown, he was solemnly crowned at Stirling and from that time all public acts ran in his name. In the stormy times which followed the infant prince was committed to the charge of the Earl and Countess of Mar.

When it became apparent that the life of his mother was in danger from the sentence of an English judicature James sent representatives to England to intercede with Elizabeth, but his whole procedure in the matter shows a singular callousness. When the news of Mary's execution arrived James was not much moved, but he attempted to make a show of indignation by condemning one of the commissioners to death, a sentence which, however, he commuted to banishment. On Nov. 23, 1589, James married Anne, daughter of Frederick II., King of Denmark.

In 1603 James having succeeded to the crown of England on the death of Queen Elizabeth proceeded amid the acclamations of his new subjects to London. In 1612 he lost his eldest son Henry, a prince of great promise, then of the age of 19, and in the following year the eventful marriage of his daughter Elizabeth with the elector palatine took place. From this marriage sprang the present royal family of England. Urged by national feelings for the Protestant cause he was at length, March 10, 1624, induced to declare war against Spain and the emperor and troops were sent over to Holland to act in conjunction with Prince Maurice. It is thought that the defeat of this enterprise produced in the king so much uneasiness as to cause the intermittent fever by which he was soon after attacked and of which he died March 27, 1625.

James II. of England, second son of Charles I. and of Henrietta of France; born Oct. 15, 1633, and immediately declared Duke of York, though only formally raised to that dignity in 1643. He first married Anne, daughter of Chancellor Hyde, afterward Lord Clarendon. In 1671

the Duchess of York died leaving her husband two daughters who became successively queens of England.

On Nov. 21, 1671, James married Mary Beatrice of Este, daughter of the Duke of Modena, and in 1677 his eldest daughter Mary was united to William, Prince of Orange.

On the death of Charles II., Feb. 6, 1685, the duke succeeded, under the title of James II., and from the time of his ascending the throne seems to have acted with a steady determination to render himself absolute and to restore the Roman Catholic religion. At variance with his Parliament he was under the necessity of accepting a pension from Louis XIV. He sent an agent to Rome to pave the way for a solemn readmission of England into the bosom of that Church, and received advice on the score of moderation from the Pope himself. This conduct encouraged the rebellion of the Duke of Monmouth. The rebellion was suppressed, but the brutality of James is shown by the execution of no fewer than 320 persons.

The innovations in regard both to the religion and government gradually united opposing interests and a large body of nobility and gentry concurred in an application to the Prince of Orange, signed by seven of the most prominent and influential political leaders, to come over and occupy the throne. James, who was long kept in ignorance of these transactions, when informed of them by his minister at The Hague, was struck with terror equal to his former infatuation, and immediately repealing all his obnoxious acts he practised every method to gain popularity. All confidence was, however, destroyed between the king and the people. William arrived with his fleet in Torbay Nov. 5, 1688, and landed his forces, amounting to 14,000 men. The royal army deserted by entire regiments. Incapable of any vigorous resolution and finding his overtures of accommodation disregarded, James resolved to quit the country. He repaired to St. Germain, where he was received with great kindness and hospitality by Louis XIV. In the meantime the throne of Great Britain was declared vacant and was occupied, with the national and parliamentary consent, by his eldest

daughter, Mary, and her husband, William, conjointly. All succeeding projects for his restoration proved abortive and he spent the last years of his life in acts of ascetic devotion. He is even said to have entered into the Society of Jesus. He died in St. Germain Sept. 16, 1701.

James, Francis Edward Stuart, born in 1688, known as Chevalier de St. George, or the Old Pretender, was the son of James II., by his second wife, Mary d'Este. Aided by the Jacobites, James made several unsuccessful efforts to gain the English throne. The Pretender died in Rome, where he had lived for many years, in 1765.

James, George Payne Rainsford, an English novelist; born in London, England, in 1801. While still very young he manifested a considerable turn for literary composition, and produced, in 1822, a "Life of Edward the Black Prince." Some years afterward he composed his first novel. Its success determined him toward fiction, and a series of novels, above 60 in number, followed from his pen in rapid succession, besides several historical and other works. Latterly he accepted the office of British consul, first at Richmond, Va., and afterward at Venice, where he died in 1860.

James, George Wharton, an American ethnologist; born in Gainsborough, England, Sept. 27, 1858; devoted himself to researches in geology, archaeology, and ethnology in California, Nevada, and other Western States. Died, 1923.

James, Henry, an American scholar and author; born in Albany, N. Y., June 3, 1811. He died in Cambridge, Mass., Dec. 18, 1882.

James, Henry, an American writer; son of Henry; born in New York, April 15, 1843. He was educated in France and Switzerland and at Harvard Law School. After 1869 he made his home in England. He was a prolific writer on various subjects. He died Feb. 28, 1916.

James, Thomas Lemuel, an American banker; born in Utica, N. Y., March 29, 1831. He was postmaster-general of the United States in 1881-1882; then became president of

James

the Lincoln National bank in New York city. He died Sept. 11, 1916.

James, William, an American educator; born in New York city, Jan. 11, 1842; received a private education; accepted the chair of philosophy at Harvard College in 1872; was Gifford lecturer on Natural Religion at the University of Edinburgh in 1899-1901. Died August 26, 1910.

James Island, one of the islands in the harbor of Charleston, S. C., at the mouth of the Ashley river. The battle of Secessionville (June 16, 1862) and several other engagements of the Civil War were fought here.

Jameson, John Franklin, an American educator; born in Boston, Mass., Sept. 19, 1859; was graduated at Amherst College in 1879; Professor of History at Brown University in 1888-1901; became head professor University of Chicago, 1901-05; Carnegie Institution, 1905-.

Jameson, Leander Starr, a British administrator; born in Edinburgh in 1853; was appointed Administrator of Rhodesia in 1891, and held the position till the raid on the Transvaal in 1895, when he was defeated at Krugersdorp. In 1897 he returned to Rhodesia and assisted in the development of the country. He served through the Boer War, and in 1904-1908 was premier of Cape Colony. Died Nov. 26, 1917.

Jamestown, a city in Chautauqua county, N. Y.; at the S. end of Chautauqua lake and on the Erie and other railroads; 69 miles S. W. of Buffalo; is the metropolis of the Chautauqua Lake region; has good water-power; is the trade center of a large farming and dairying section; and manufactures various textiles, metallic furniture, shoes, and flour. Pop. (1930) 45,155.

Jamestown, a district of James City co., Va., the first permanent English settlement within the limits of the United States; founded in 1607 on a peninsula 32 miles from the mouth of James river. It has now become an island by the action of the current. In 1619 a house of burgesses, the first legislative assembly ever convened in British America, met here. After the seat of government was removed to Williamsburg, Jamestown

Janizary

began to decline; it was burned by Nathaniel Bacon during the rebellion of 1676. It was the scene of an engagement between Wayne and Lord Cornwallis in 1781, and the 300th anniversary of its settlement was commemorated by an international exposition at Hampton Roads, near Norfolk, in 1907.

Janaushek, Francesca Romana Magdalena, a Polish actress; born in Prague, Bohemia, July 20, 1830. She made her first tour in America in 1867-1869, and returning to Germany, studied English, and in 1873 made her second visit to the United States. She died Nov. 29, 1904.

Janesville, city and capital of Rock county, Wis.; on the Rock river and the Chicago & Northwestern and other railroads; 40 miles S. E. of Madison; is in a tobacco and grain-growing section; has large water-power; manufactures cotton and woolen goods, machinery, barber wire, and boots and shoes; is the seat of the State Blind Asylum. Pop. (1926 Est.) 21,200.

Janeway, Edward Gamaliel, an American physician; born in New York, Aug. 31, 1841. He practiced in New York, and after 1873 was Professor of Pathological Anatomy at Bellevue Hospital Medical College. In September, 1901, he was summoned to the bedside of President McKinley, as a consultant. Died, 1911.

Janeway, Jacob Jones, an American clergyman; born in New York city, Nov. 20, 1774; was graduated at Columbia College in 1794; was pastor of the Second Presbyterian Church in Philadelphia in 1799-1828; Professor of Belles-lettres, Evidences of Christianity, and Political Economy at Rutgers College in 1833-1839. He died in New Brunswick, N. J., June 27, 1858.

Janin, Jules, a French critic, journalist, and novelist; born in St. Etienne, Feb. 16, 1804. In 1870 he was elected to the French Academy. His permanent work is probably the collection of papers called "History of Dramatic Literature." Died 1874.

Janizary, a soldier of the Turkish footguard. They acted as the imperial bodyguard of the Sultan at Constantinople, but on the ground of being turbulent and dangerous to the

State, in consequence of their rising against the Sultan, the force was dissolved June 17, 1826, when 15,000 were executed, and more than 20,000 banished.

Jan Mayen Land, a volcanic island in the Arctic Ocean, named after the Dutch navigator by whom it was discovered in 1611. It lies between Iceland and Spitzbergen, and is 35 miles long. In 1882-1883 it was made the station of the Austrian polar expedition. Important seal and whale fishings are carried on E. and N. of Jan Mayen every summer.

Jansenists, a party which arose about the middle of the 17th century, under the leadership of Cornelius Jansenius, who with his friend, St. Cyran deduced from the works of St. Augustine a system of doctrine which was condemned by the Popes. It was almost identical with the Calvinistic theology, and specifically opposed the teaching of the Jesuits. Jansenius died in 1638, but his teachings were accepted by a large number of Roman Catholics, notably by the eminent leaders of Port Royal, Pascal, Arnauld and Nicole. They were persecuted by the Jesuits and by the French King, Louis XIV. Many of them fled to the Netherlands. They still held themselves members of the Roman Catholic Church and did homage to the Pope, but he issued a bull against them and denounced them as heretics. The organization still survives, with centers at Utrecht and Haarlem. It is reported to number about 5,000 souls scattered over 25 parishes with 30 priests.

Jansenius, Cornelius, a Flemish theologian; born in 1585. He founded the body of sectaries in the Roman Catholic Church known as Jansenists. He was made Bishop of Ypres, and died in 1638.

Janson, Kristofer Nagel, a Norwegian poet; born in Bergen, May 5, 1841. He was a clergyman and educator, and settled in the United States in 1881. "Norse Poems," a collection of lyrics, and "Praelien's Saga," are his most popular works, but he produced many stories of merit. He wrote in both Norse and English.

Januarius, St., or San Gennaro, a martyr of the Christian faith under Diocletian. He was a native of Bene-

vento, or at least became bishop of that see in the latter part of the 3d century. According to the Neapolitan tradition the place of his martyrdom, in 305, was Pozzuoli, where many Christians suffered the same fate. His body is preserved at Naples, in the crypt of the cathedral, and in a chapel of the same church are also preserved the head of the martyr, and two phials supposed to contain his blood. On three festivals of each year the head and the phials of the blood are carried in solemn procession to the high altar of the cathedral, where the blood, on the phials being brought into contact with the head, is believed to liquefy, and in this condition is presented for the veneration of the people or for the conviction of the doubter. It occasionally happens that the liquefaction fails, and this is regarded as an omen of the worst import.

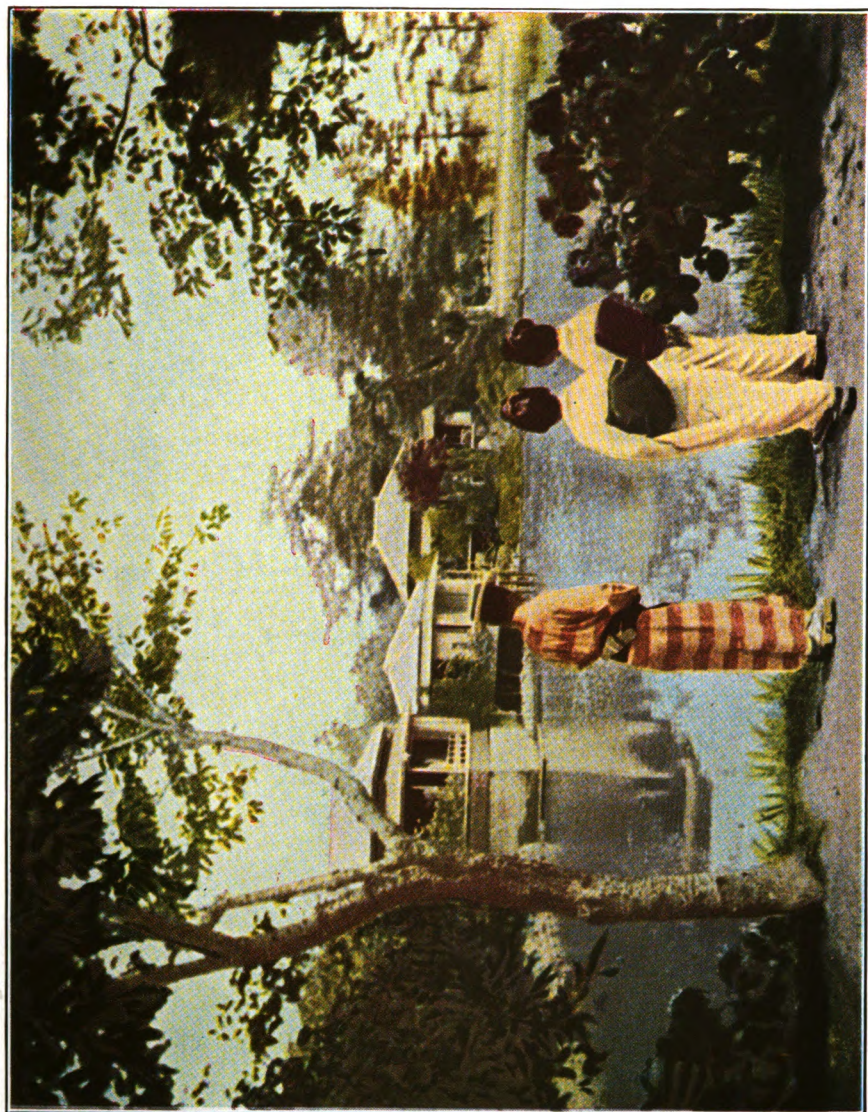
January, the first month of the year. It was among the Romans held sacred to Janus, from whom it derived its name.

Janus, one of the divinities of ancient Rome, and the only one having no equivalent in the Grecian mythology. He was represented as a son of Apollo. Janus was the god of doors and gates, and in token of his office carried a key in his hand. The first month of the English year receives its name from him, and he presided over the dawn of every day and the commencement of every undertaking. Janus was usually represented with two heads, looking in opposite directions. His temple at Rome was kept open in the time of war, and shut in time of peace.

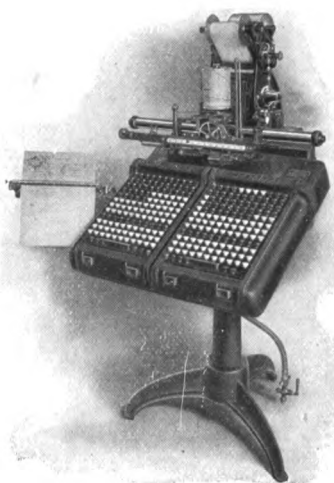
Janvier, Margaret Thomas, an American author; born in New Orleans, La., in 1844, sister of Thomas Allibone Janvier; wrote juvenile stories and verses. She died in 1913.

Janvier, Thomas Allibone, an American author; born in Philadelphia, Pa., July 16, 1849; received a common school education; engaged in newspaper work in his native city in 1870-1881; lived in New York during most of the period 1884-1894, and then went abroad. He died in 1913.

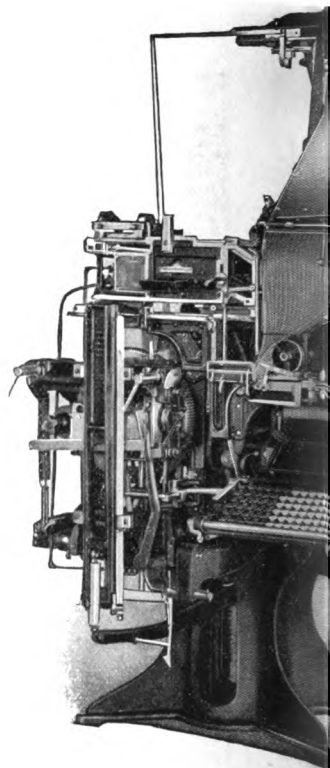
Japan (native name Dai Nipon, or Nippon, that is, "Great Nippon," the latter word meaning Sunrise or East),



JAPANESE TEA HOUSE. TOKYO



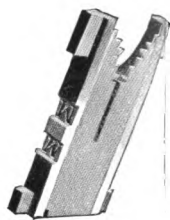
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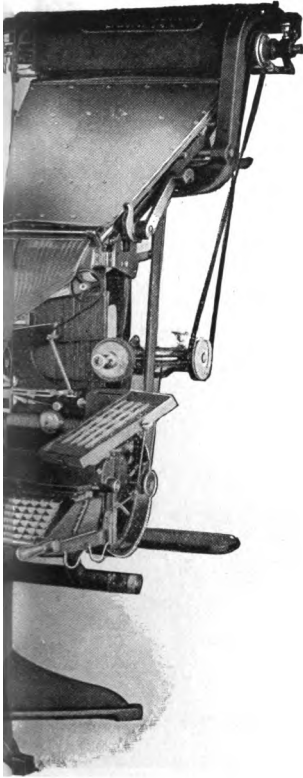


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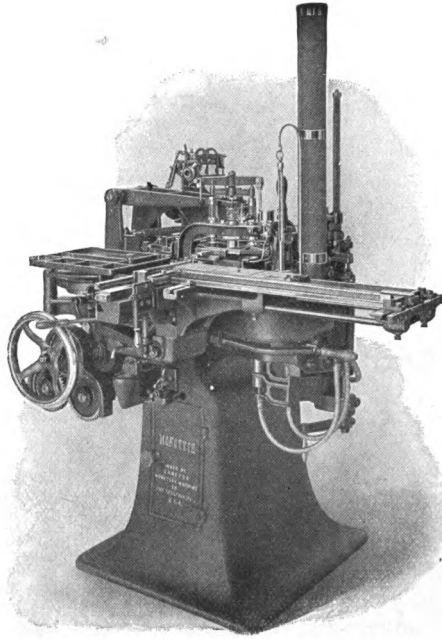


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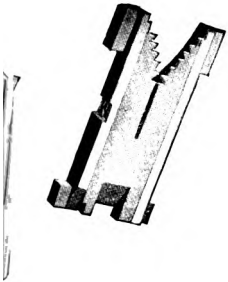
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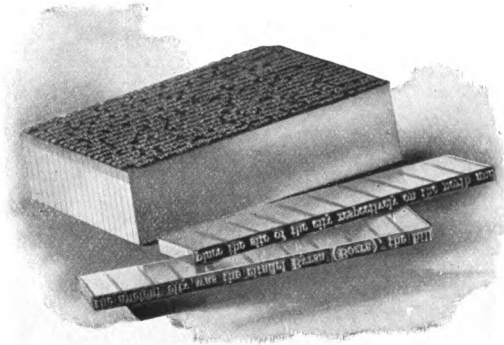
MONOTYPE



MONOTYPE CASTING MACHINE



LINE MATRICES



INDIVIDUAL SLUGS OR LINOTYPES

MACHINES



JAPANESE DANCER

an island empire in the North Pacific Ocean, off the N. E. coast of Asia. The total area of all the islands is 260,738 square miles. The term Nippon, often used for the largest island of the group, is really the name of the empire. The capital of the empire is Tokyo. The population of Japan proper in 1925 was 59,736,822. Including Korea, Formosa, etc., pop. 84,568,773.

The largest island, Nippon or Hon-do, is upward of 700 miles long N. E. and S. W., breadth varying from 50 to 100 miles. The coasts of the larger islands are extremely irregular, forming magnificent harbors. The surface also is generally uneven, and in many instances rises into mountains of great elevation. Volcanic vents are numerous, and earthquakes, often causing great devastation, are of frequent occurrence, and it is calculated that every 7 years a Japanese city is destroyed by their agency. In Yezo some dreadful eruptions have occurred. The metallic wealth of the empire is known to be very great, comprising gold, silver, copper, tin, lead, and iron. The island of Sado is particularly mentioned as rich in gold. Both the tin and copper of Japan are considered to be of very superior quality. Coal is found in various parts, there being one field of 60,000,000 tons of anthracite, the rest being bituminous. The 1926 production was 31,426,549 metric tons; 1,700,000 barrels of petroleum were produced in 1927. Sulphur abounds; thermal and mineral springs are of frequent occurrence; and ambergris is met with on some of the shores. Streams are numerous in Japan, but have very short courses and are rather torrents than rivers.

The climate of Japan, though extremely varied—being intensely cold in the N., and about as warm as the South of France in the S.—is on the whole much milder than its latitude would indicate; owing chiefly to the influence of the surrounding ocean.

Vegetation of the Japanese islands is exceeding varied, the products of the tropics being intermingled with those of the temperate and frigid zones. The palm, banana, bamboo, bignonia, and myrtle flourish in the S., while in the N., more especially in the island of Yezo, oaks and pines abound. Sweet

oranges, pomegranates, pears, apricots, peaches, and over 500 of the principal ornamental and useful plants are of foreign origin, having probably been introduced from Korea and China. The camphor and varnish trees are indigenous. The kadsai, or paper tree, a species of mulberry, grows naturally in the fields, and furnishes textile fibers from which paper is produced; paper is also made from various other plants. The chrysanthemum is a common and favorite plant and has become an emblem of Japan. The flora as a whole resembles that of a great part of North America.

The soil of Japan is naturally indifferent; but the patient industry of the agriculturists favored by the genial climate has covered with vegetation every spot capable of bearing anything. In the S. the sugar cane is cultivated with success; and rice yields two harvests and constitutes the chief article of food. Wheat and barley, maize and millet are grown to an important extent, and buckwheat, potatoes, melons, pumpkins, and cucumbers in great abundance. Ginger, pepper, cotton, hemp, and tobacco are cultivated in considerable quantities; and there are extensive plantations of the tea plant—yielding, however, a produce inferior to that of China. Silk is also a Japanese product.

The Japanese may be regarded as belonging to the great Mongolian family of peoples (apart from the Ainos of Yezo, who are of different race). They are distinguished by broad skulls and high cheek bones; small black eyes, obliquely set; long black hair; and a yellow or light olive complexion; some are good looking and many are well made, active, and nimble. Apart from members of the imperial family, they are now divided socially into three classes; kwazoku or nobles, shizoku or knights, and heimin or common people; and the classes are kept distinct with all the strictness of caste. Among the chief moral characteristics of the Japanese are perseverance, courage, and frankness, with good humor, natural politeness and a large measure of self-confidence. The agricultural population in particular are distinguished for their industry, temperance, and courteous hospitality. The Japanese dress consists of loose garments of silk

or cotton gathered in at the waist and fastened by a girdle, the men of the higher orders wearing a kind of petticoat trousers. At the present day, though the national costume has by no means been discarded, European dress is commonly worn by the upper classes on formal occasions and during the discharge of official duties. The established or State religion is that of Buddha, which is, however, exotic and comparatively modern, although another and older faith also exists, called Shinto or Shin-Syu (faith in gods, or ways to gods). There are a large number of Christians in Japan, the Protestant missions reporting 30,000 members. The literature of Japan is copious and includes works in all departments, historical, scientific, and imaginative, generally based on Chinese classics.

The Government of Japan was, till 1868, a hereditary absolute monarchy, vested in the mikado, or emperor. This was the ancient form, but in 1585 the emperor's commander-in-chief, the shogun, usurped the governing power. In 1868, however, a revolution overthrew the power and office of the shogun and the mikado was restored to his ancient supremacy. In 1889 Japan received a constitution, becoming a constitutional monarchy. The mikado is sovereign of the empire, can declare war, make peace, and conclude treaties; and exercise executive powers with the advice and assistance of his cabinet who are appointed by himself. He is also assisted by a privy council, who give their advice in important matters when consulted. The cabinet includes the prime minister and the statesmen at the head of the foreign office, treasury, war, navy, education, public works, etc. The legislative power is vested in the mikado and the Diet or Parliament, which consists of two houses, a house of peers and a house of representatives. The former consists of members of the imperial family, princes, and marquises; counts, viscounts, and barons elected by their respective orders; and a certain number of persons nominated by the emperor and by a few wealthy taxpayers, the total number being about 370. The house of representatives numbers 379; the members being elected for a period of four years, so many from each elec-

toral district. The army on a peace footing in 1927 numbered 220,840 of all ranks, and the navy had 213 vessels of all classes, the greater part being of the latest types.

On the abolition of the shogunate in 1868 Japan entered a program of reform on Western lines. This progressive movement was chiefly, if not solely, the result of political foresight. The Japanese at heart are as anti-foreign as their Chinese neighbors; but, unlike the latter, they have grasped the fact that Western encroachment can only be checked by Western methods. Not only were the youth of Japan sent to Europe for the purpose of acquiring Western sciences, but foreign advisers were called in wholesale to reorganize the army and navy on Western models, with an efficiency shown by the victories in the war with China, 1894-95, and with Russia, 1904-05. The civil and industrial systems were also reorganized, nation of the greatest importance. In 1897 Japan adopted a gold currency and placed herself thereby on a financial level with the civilized powers of the West. Silk and silk goods form the chief export, others of importance being coal, copper, tea, cottons, rice, matches, porcelain, mats. The imports include cotton, textiles, metals, machinery, etc. The trade with U. S. consumes about 45 per cent of her exports and in 1927 these were valued at \$402,105,134.

Marco Polo is the first European traveler who speaks of Japan, called by him Cipango, or Zipangou. In 1542 it was reached by Mendez Pinto, and shortly afterward the Portuguese obtained permission to settle at Nagasaki and established a highly lucrative trade.

The first attempt in modern times to reopen a commercial intercourse was made by the United States, which, March 31, 1854, succeeded, through the agency of Commodore Perry, in concluding a treaty by which the ports of Shimoda, in the island of Nippon, and Hakodate, in Yezo, were to be opened to American ships, but only for effecting repairs and obtaining supplies of provisions and fresh water. In October of the same year Admiral Sir James Stirling concluded on behalf of Great Britain a similar treaty by

which the harbors of Nagasaki and Hakodate were to be opened to British ships for the same purpose. A much more important treaty, however, was effected by Lord Elgin with the Japanese government on Aug. 26, 1858, by which five ports were opened to free commerce with Great Britain, under payment of certain fixed duties. The American government had a short time previous concluded a similar treaty with Japan, and other treaties of a like nature were soon concluded by various European countries. In 1869 Europeans were also allowed to establish trading houses at Tokyo (the port of which is Yokohama), and since then a number of other ports have been opened to foreign trade. The mission of Commodore Perry to Japan contributed much to inform us as to the condition of the Japanese, and since that time there has been a continual increase in our knowledge both of the country and people.

In 1894 war with China broke out, ostensibly owing to disturbances in Korea, over which both China and Japan had long claimed a suzerainty, and which had been a frequent source of friction between the two countries on former occasions. Active hostilities began in Korea, from which the Japanese gradually drove out the Chinese troops. A great naval engagement took place off the mouth of the Yalu river, which separates Korea from China, and the result was entirely in favor of the Japanese, who then pushed their way into Manchuria, driving the Chinese before them. China saw that it was hopeless to continue the struggle, and in March, 1895, Li Hung Chang was sent to Shimonoseki to sue for peace. Japan demanded, in addition to a heavy war indemnity, the cession of the Liao-tung peninsula. To these terms China's plenipotentiary ostensibly agreed, but it had been secretly arranged that Russia should step in and forbid the alienation of territory on the mainland. Accordingly Japan found her demands opposed by Russia, France, and Germany, and was compelled to forego the legitimate fruits of her victory. There is no doubt that Japan's primary object in making war was to check the advance of Russia on Korea. Her statesmen hoped, by the insistence on Western reform, to

make Korea a powerful buffer State between their own country and Muscovite aggression. Instead of the Liao-tung peninsula, the island of Formosa and the Pescadores Islands were ceded to Japan, who was thus obliged temporarily to relinquish her design of thwarting Russia's objects in Northern China. In 1904-05 by her crushing defeat of the Russian forces (see RUSSO-JAPANESE WAR) Japan amply retrieved the delay. Prior to this, extra-territoriality had been abolished, and the whole of Japan thrown open to foreigners for travel, trade, or residence. Treaties also had been made with the United States and other powers, notably England (see ANGLO-JAPANESE ALLIANCE), which gave Japan full recognition among world powers. Since the Russian War, Japan has increased her commercial activities at home, in her colonies, and elsewhere. Her navy has been increased by battleships, cruisers and destroyers, built and largely equipped in her own shipyards by her own people. In 1906 there was a little excitement over the segregation of Japanese pupils in San Francisco schools; in 1910 Japan annexed Korea and renamed it Cho-Sen; and on Aug. 23, 1914, declared war against Germany. Three days later she began the blockade of the Province of Tsingtau, a Chinese territory held by Germany under lease. The forts and the principal city, Kaio-Chow were captured Nov. 7 following, which ended German sovereignty in the Far East. Later she cooperated with the Entente Allies in naval operations. In 1917 she sent a special mission to the United States, which negotiated an agreement concerning Japan's interests in China and the "open door."

Jaroslan, a town of Austria-Hungary, in Galicia, 17 miles N. N. W. of Przemyśl, on the railway from Lemberg to Cracow; has an active trade and is otherwise chiefly engaged in manufactures of textiles, pottery, and brandy. It was in the zone of fierce fighting, especially in the operations against Przemyśl. Pop. over 25,000. See APPENDIX: World War.

Jasher, Book of, one of the lost books of the ancient Hebrews, which is

quoted twice (Josh. x: 13; II Sam. i: 18).

Jasmine, or **Jasmin**, the English name of the genus *Jasminum*. It has opposite pinnate leaves, a four or five cleft white, sweet-scented corolla. Of about 40 species of jasmine in India, nearly all may be used in manufacturing oil and otto of jasmine.

Otto of jasmine, a pomade made by impregnating suet with the scent of jasmine, and leaving it for a fortnight in pure rectified spirit.

Jason, in classic fable, a Greek hero; son of Aeson, King of Iolchos, a city of Thessaly. His journey to recover the Golden Fleece is one of the famous stories of mythology.

Jasper, a mineral of the quartz family, which occurs in the form of rocky masses, often making up large portions of hills of considerable size. In hue it is of various shades of red, yellow, brown, and green, and sometimes arranged in stripes, when it is called ribbon jasper. Its varied colors are generally derived from iron in different degrees of oxidation. Jasper is much used for ornamental purposes, on account of its hardness and susceptibility of taking a high polish.

Jastrow, Morris, an American educator; born in Europe, Aug. 13, 1861; was graduated at the University of Pennsylvania in 1881 and studied in Europe; accepted chair of Semitic Languages in the University of Pennsylvania; became a high authority on Semitic Languages, religion and literature. Died in 1921.

Jaundice, an affection in which many tissues of the body are stained yellow, particularly the conjunctiva, skin, underneath the finger-nails, the urine, etc. It is caused by the coloring matter of the bile becoming absorbed into the blood from various morbid conditions of the liver, or the duodenal portion of the intestine, either from mechanical obstruction of the bile, or from suppression.

Java, an island of the Dutch East Indies; is washed on the N. by the Sea of Java, on the E. by the Strait of Bali, on the S. by the Indian Ocean, and on the W. by Sunda Strait; extends almost due W. and E., declining about 15° to the S. The extreme length is about 600 miles, the

breadth 40 to 125 miles, the area, with Madura, 50,557 square miles, pop. in 1920, 35,017,204. Batavia, the capital, has a population of 290,408. The coast line is not much developed; a few large bays, protected by islands, furnish safe anchorage for vessels. There are 43 volcanoes, several of which are still active. The climate depends on the altitude; it is rather hot and unhealthy on the coast, but pleasant in the hills.

The natives belong to the Malay race. The Madurese, in the E. part of the island, the Sundanese, living in the W. part, and the Javanese proper differ in physique and in language. Most of them are Mohammedans. The native Christians number about 12,000, and the Chinese Christians a few hundreds. Entire liberty is granted to all religious beliefs. The Reformed Church had 44 ministers and 28 assistants, and the Roman Catholic, 32 curates and 65 priests, in 1914, and about 370 missionaries of various societies were at work.

Land is Government property, except in the west, and is let on hereditary lease to individuals or to villages in the case of communal holdings. The chief exports are sugar, coffee, rice, teak, tea, tapioca, and petroleum. Rubber cultivation is extending rapidly.

Jaworow, a town in Galicia, Austria, 25 miles W. of Lemberg. It was the favorite residence of Sobieski, who here received the congratulations of the Pope and the Venetian Republic on his success against the Turks at Vienna in 1683; also in the great war zone in 1916-17.

Jay, the popular name of a species of birds belonging to the crow family, of a vinous red color; the back pale gray; the rump and upper tail coverts white; the tail black or gray, with bluish-gray bars; the wing coverts light gray, in the median series light gray inclining to chestnut; the bastard wing or primary coverts barred with black or bright cobalt blue; head with an erectile crest; forehead white, streaked with black. Length about 13 inches. It is a beautiful bird, but attacks peas and other garden crops, to which it is very destructive, especially in the vicinity of woods and forests,

and also eats worms, larvæ, and snails. It is often kept as a cage bird. The common blue jay is found over a large portion of North and South America. The green jay of the United States is well known.



JAY.

Jay, John, an American statesman; born in New York city, Dec. 12, 1745; was graduated at King's College (now Columbia University) in 1764, and was admitted to the bar in 1768. Elected to the 1st Continental Congress in 1774, and reelected in 1775, he prepared addresses to the people of Great Britain and Canada and to his own countrymen; drafted the constitution of New York State in 1777, and was appointed chief-justice of the State; was returned to Congress in 1778 and elected its president, and in the following year was sent as minister to Spain. In 1782 he was added by Congress to the peace commissioners, and it was mainly by his efforts that the treaty was brought to a conclusion on terms so satisfactory to the United States. In 1784-1789 he was secretary for foreign affairs. On the adoption of the National Constitution in 1789 he wrote in its favor in the "Federalist"; and after the organization of the Federal government, Washington having offered him his choice of the offices in his gift, he selected that of chief-justice of the Supreme Court. In 1794 he concluded

with Lord Grenville the convention familiarly known as "Jay's treaty," which provided for the recovery by British subjects of pre-revolutionary debts and by Americans of losses incurred by illegal capture by British cruisers, and the determination of the E. frontier of what is now the State of Maine; the British were to surrender the W. posts held by them in 1786, and there was to be reciprocity of inland trade between the United States and British North America. The treaty, though favorable to the United States, was passionately denounced by the Democrats as a surrender of American rights and a betrayal of France; but it was ratified by Washington in August, 1795. Jay was governor of New York from 1795 to 1801. Then, though offered his former post of chief-justice, he retired from public life, and passed the remainder of his days at his estate of Bedford, Westchester co., N. Y., where he died, May 17, 1829.

Jeannette Expedition, an enterprise to seek the North Pole, projected in 1879 by James Gordon Bennett, proprietor of the New York "Herald," who sent out an Arctic expedition from San Francisco in the steamer "Jeannette," under the command of Lieutenant De Long, U. S. N. The "Jeannette" was early caught in the ice-pack, drifted for nearly two years, and never escaped from its grip. Subsequently dispatches from Engineer Melville showed that after the wreck of the "Jeannette" the crew embarked in two cutters and a whaleboat. Lieutenant Danenhower and a portion of the "Jeannette's" crew reached New York at the end of May, 1882, Engineer Melville remaining in Siberia to prosecute the search for the bodies of De Long and his men. They were finally discovered in the snow, with evidences that all had perished from cold and hunger.

Jebusites, one of the chief tribes of the land of Canaan; they dwelt in the mountains to the W. of the Dead Sea, and to the N. of the Hittites. Their capital was Jebus, afterward called Salem; and, according to some, was the site, at a later period, of the city of Jerusalem.

Jedda, or Jeddah. A city of Arabia. See JIDDAH.

Jefferson, a city of Texas, capital of Marion Co., on Cypress Bayou, 48 miles N. W. of Shreveport, La. Pop. (1930) 2,329.

Jefferson, a city of Wisconsin, capital of Jefferson Co., at the confluence of the Rock and Crawfish Rivers, 49 miles W. of Milwaukee. Pop. (1930) 2,639.

Jefferson, Charles Edward, an American clergyman; born in Cambridge, O., Aug. 29, 1860; was graduated at Ohio Wesleyan University in 1882, and at the School of Theology, Boston University, in 1887. In 1898 he became pastor of the Broadway Tabernacle, New York.

Jefferson, Joseph, an American comedian; born in Philadelphia, Pa., Feb. 20, 1829. He came of a theatrical stock, his great-grandfather having been a member of Garrick's company at Drury Lane, while his father and grandfather were well-known American actors. Jefferson was on the stage from his very infancy, appearing as Cora's child in "Pizarro" when only three years of age. In 1865 he visited London, and at the Adelphi Theater played for the first time his world-famous part of Rip Van Winkle, Sept. 4, 1865. With this character his name is identified, and though he has shown himself an admirable comedian in many characters to the English-speaking world he is always Rip Van Winkle. The character is one of the most perfect works of art. Died at Palm Beach, Fla., April 23, 1905.

Jefferson, Thomas, an American statesman, 3d President of the United States; born in Shadwell, Va., April 2, 1743. He received a liberal education for that time, graduating at William and Mary College in 1764. He was admitted to the bar in 1767. In 1769 he was sent to the Virginia House of Burgesses, where he gained local fame by a speech supporting the emancipation of slaves. In 1774 the Burgesses were dissolved by Lord Dunmore, the governor, but met on their own responsibility and sent delegates to the Colonial Congress. Jefferson being elected but unable to go, sent a "Summary View of the Rights of British North America," for which he was nearly attainted of treason in Parliament. Jefferson was a member of

the 2d Congress, in 1775, and of the 3d, in 1776. He was appointed chairman of a special committee of five to prepare a declaration of independence, Jefferson wrote the draft, and it was adopted, with very few changes, to become one of the immortal documents of history. He resigned his seat in Congress to assist in framing the Virginia constitution. In 1779 he was elected governor of Virginia. In 1783 he was returned to Congress, where he secured the adoption of the decimal system of coinage and assisted in other important measures. In 1784, with Franklin and Adams, he was instrumental in making important treaties with Prussia and Morocco. In 1785 he was made minister to France, where he served during the stormiest period of the French Revolution. The liberal and destructive spirit of that revolution had great influence upon him, and his subsequent views and acts were more or less shaped by it. He floated the French tricolor at his home at Monticello, and greeted his neighbors with the title of "citizen." In 1789 he was made Secretary of State by Washington. Here he was recognized as the leader of the Republican party, the other members of the Cabinet and Washington himself being Federalists. In 1794 he retired to his estate and passed three years in study and leisure. In 1797 he was chosen Vice-President with Adams, and in 1801 was elected President by the House of Representatives. In 1805 he was reelected. His administrations were marked by the war with Tripoli, the admission of Ohio to the Union, the purchase of the Louisiana Territory, the naval episode between the "Chesapeake" and the "Leopard," the Embargo act, the trial of Aaron Burr for treason, and the prohibition of the slave trade. His course in connection with these events was warmly approved, for the most part, by the people, but much criticised by prominent Federalists, and by enemies that he made. In 1809 he retired finally to private life, where he devoted himself to study and to philanthropic enterprises, his chief undertaking being the establishment of the University of Virginia. He was steadily Democratic in his views, and a champion of the rights of the States, as against centralization in government. He died in Monticello, Va., July

4, 1826, on the same day of John Adams's death, and the 50th anniversary of the famous Declaration that he had penned.

Jeffrey, Francis, a British critic and essayist; born in Edinburgh in 1773. After graduating at the universities of Glasgow and Oxford, Jeffrey, in 1794, was admitted to the Scottish bar. In 1813 he married a grand-niece of John Wilkes, crossing to the United States to bring her home. From 1816 till he ceased to practise Jeffrey was the acknowledged leader of the Scottish bar. He died in 1850.

Jeffreys, or Jefferies, George, Lord, an English jurist; born in Acton, England, about 1640. By attaching himself to the Duke of York he obtained the appointment of Welsh judge, the honor of knighthood, and the chief-justiceship of Chester. In 1683 he was appointed Chief-Justice of the King's Bench, and, in 1685, Lord Chancellor. His cruelties on the Western circuit toward the deluded followers of the Duke of Monmouth were excessive; yet they gave great satisfaction to James II., who, with a grim pleasantry, called this "Jeffreys' Campaign." He died a prisoner in the Tower of London in 1689.

Jehoshaphat, King of Judah B. C. 912-887. Fifth in direct descent from David. During the early part of his reign he was zealous in destroying idols and in the service of God. Later he formed an alliance with Ahab, king of Israel in a war against Syria. The allies were defeated and Ahab slain. Jehoshaphat was afterwards attacked by the Moabites, but was delivered in answer to prayer.

Jehovah, the most sacred of the names given in the Old Testament to the Supreme Being. It was the name chosen by God himself, in his message, through Moses, to the enslaved Israelites (Ex. 3:14). It implies the self-existent God. The name was deemed so sacred that the Hebrews refrained from pronouncing it. The true pronunciation is disputed, but modern scholars think it was Yahveh.

Jehu, the 10th King of Israel; had been commander in the army of Jehoram, his king, whom he shot with an arrow, and put to death 70 of

Ahaba's children, and the priests of Baal in the temple of their idol. He died in 857 B. C.

Jellicoe, John R., 1st Viscount, a British naval officer; born Dec. 5, 1859; entered the navy in 1872; served in the Egyptian war of 1882; in China in 1898-1901; commanded the naval brigade in the attempted relief of the Peking legations in 1900; was Director of Naval Ordnance in 1905-7; became a rear-admiral in 1907; later, Second Sea Lord of the Admiralty; and at the outbreak of the World War was appointed commander-in-chief of the Grand British Fleet, which for a long time kept the German High Sea Fleet sealed up in the harbor of Kiel, and fought it in the greatest naval battle in history off the Jutland Bank of Denmark, on May 31-June 1, 1916.

Jemappes, a town in Southern Belgium, a few miles S. E. of Mons and about 10 miles N. of Malplaquet, France; is famous as the scene of the battle in which the French Revolutionary army defeated the Austrians in 1792; figured in the early operations of the World War.

Jena, a town in the grand-duchy of Saxe-Weimar, Germany, 12 miles east of Weimar, on the Saale. Its university, opened in 1558, has 94 professors or lecturers, and about 600 students. Jena is noted chiefly for the defeat of the Prussians (70,000 men) under Prince Hohenlohe by the French under Napoleon (90,000 men), Oct. 14, 1806. Pop. (1925) 47,662.

Jenckes, Joseph, an American inventor; born in Colbrooke, England, in 1602; became a master mechanic; established the first iron works in the American colonies in 1642; directed the erection of the first furnaces, the manufacture of the first molds and the casting of the first tools and machinery; designed an improved water-wheel in 1646, and later a sawmill. In 1652 the first mint was founded in Boston, and Jenckes cut the first dies for its coins; made the first fire engine in America in 1654; invented also an improved grass-scythe which has been used in all countries with but few changes. He died in Lynn, Mass., March 16, 1683.

Jenner, Edward, an English physician; born in Berkeley, Gloucestershire, in 1749. After many years devoted to the consideration of, and experiments made with, vaccine lymph, as a specific for smallpox, Jenner was for the first time, in 1796, enabled to satisfy many medical men of the valid properties of this new agent, and show by a demonstration that the lymph taken from a cow, when inserted under the skin of a patient of any age, acted as a preventive of the disease known as smallpox. He died in 1823.

Jenner, Sir William, an English physician; born in Chatham, in 1815; was educated at University College, London. It was he who established the difference between typhus and typhoid fevers (1851). He died in 1898.

Jenny Lind. See GOLDSCHMIDT.

Jenolan Caves, a series of vast limestone caverns, on the W. side of the Blue Mountains, in New South Wales, Australia. They were discovered in 1841, and were set apart in 1866 as public property. In grandeur, magnitude, and rich variety they rival the Mammoth Cave of Kentucky.

Jephthah, one of the judges of Israel, who made a remarkable vow before he marched against the Ammonites, that if he proved victorious he would offer to the Lord the first living thing which should come to meet him on his return. This happened to be his only daughter, whom he is said to have sacrificed to fulfil his rash vow.

Jerboa, a rodent mammal, with a body six inches long and a tail about eight, occurring in Egypt, Nubia, Arabia, and some other parts of Western Asia. They are lively little creatures, forming societies in the desert, feeding on its scanty vegetation, and living in underground galleries.

Jeremiah, the name of eight men mentioned in the Old Testament, the only very notable one being Jeremiah the prophet. He was of priestly descent, and born or resident of Anathoth, about 3 miles from Jerusalem. His father's name was Hilkiah. When called to the prophetic office, in the 13th year of King Josiah, B. C. 629 or 625, he calls himself a child. His prophetic life spanned the 11th of

King Zedekiah, about B. C. 588, a period of 37 or 41 years. He wrote two Old Testament books, the prophecies of Jeremiah and the Lamentations. Many rationalistic critics attribute to him also the book of Deuteronomy.

One of the canonical books of the Old Testament, the second of the greater prophets. The several predictions are not in chronological order. A certain plaintive air runs through the book, deepening as the trials of the seer increase. The concluding chapter, an historical one, is evidently from another hand.

Jericho, a city of the Canaanites, in a plain on the W. side of the Jordan, near its mouth. It was destroyed by Joshua, rebuilt in the time of the judges, and formed an independent frontier fortress of Judæa. It was again destroyed by Vespasian, rebuilt under Hadrian, and finally destroyed during the crusades. The site of Jericho has usually been fixed at Rihah, a mean and foul Arab hamlet of some 200 inhabitants. Recent travelers, however, show that the probable location of Jericho was 2 miles W. of Rihah, at the mouth of Wady Kelt, and where the road from Jerusalem debouches into the plain. On the W. and N. of Jericho rise high limestone hills, one of which, the dreary Quarantana, 1,200 or 1,500 feet high, derives its name from the modern tradition that it was the scene of our Lord's 40 days' fast and temptation. Jericho was anciently well watered and amazingly fruitful.

Jericho, Rose of, popular name of a genus of plants belonging to the crucifers. It is an annual, inhabiting the Egyptian desert. It is so highly hygrometric that when fully developed it contracts its rigid branches so as to constitute a ball. Exposed then to the action of the wind, it is driven hither and thither. If, however, it be brought in contact with water, the ball-form vanishes, and the branches again acquire their natural expansion.

Jeroboam, the 1st King of Israel, an officer in the service of Solomon, who had created him governor of the States of Ephraim and Manasseh. While fulfilling these offices it was predicted that he should yet rule over 10 instead of 2 of the tribes. Solomon, alarmed at the effect of such a

report, sent out his officers to secure Jeroboam; but he fled into Egypt, returning when Solomon died 990 B. C., and the 10 tribes revolting, formed the Kingdom of Israel, and elected him King. He died 968 B. C. See ISRAEL, KINGDOM OF.

Jeroboam II., King of Israel, and the son of Joash, succeeded that king in 834 B. C. After some signal victories over the Assyrians he fell into the practice of idolatry and had his kingdom overrun by the Assyrians.

Jerome, or **Hieronymus**, one of the fathers of the Church; born in 331 at Stridon; died in 420.

Jerome of Prague, a Bohemian reformer; born about 1360. He was in faith and sufferings the companion of the famous John Huss. On May 30, 1416, he was burned at the stake. His life has been written by Heller.

Jerome, William Travers, lawyer; born in New York, Apr. 18, 1859; graduated at Amherst College, and Columbia Law School; joined the bar in 1884; was Justice of Special Sessions 1895-1902; and became District-Attorney of New York Co., in 1901. His career in the latter office was marked by fearless activity in the suppression of gambling, and other forms of vice.

Jerrold, Douglas, an English humorist and dramatist; born in 1803. After being for a short time a midshipman, he was bound as an apprentice to a printer in London. He died in 1857.

Jerrold, William Blanchard, an English journalist and topical writer, son of Douglas; born in London, Dec. 23, 1826; died in 1884.

Jersey, the largest of the Channel Islands, in the English Channel, about 15 miles from France, but belonging to Great Britain. It is about 12 miles long and 7 miles wide. New Jersey was named after it in 1664.

Jersey City, a city and county-seat of Hudson co., N. J., on the Hudson river, the Morris canal, and the Pennsylvania, the Erie, the Lehigh Valley, the New Jersey Central, the Baltimore and Ohio, the West Shore, the New Jersey and New York, the New York, Susquehanna and Western, and the Lackawanna railroads; opposite New York city, with which it is

connected by steam ferries and electric railroad tunnels. Area, 13 square miles.

The business portion of the city lies in a level stretch along the river, about a mile in width. W. of this is an abrupt bluff on which is the residential portion of the city. Jersey City is the second largest city in the State; owns a waterworks system with a capacity of 130,000,000 gallons; has trolley connections with all parts of the State; assessed valuations (1916) \$300,642,120; net debt, \$19,732,603.

The business interests of Jersey City are closely allied with those of New York city. Being the terminus of several large railroads and steamship lines, the commercial trade is very extensive. It has extensive stock yards, slaughter houses, grain elevators, and meat packing establishments. Its manufactures are varied and extensive.

Jersey City was formerly known as Paulus Hook; was laid out in 1804; chartered as the city of Jersey in 1820; incorporated as Jersey City in 1838; was rechartered in 1889. Pop. (1920) 297,864; (1930) 316,715.

Jerusalem, a city of Palestine, of little account and wretched appearance at the present time, but of historical importance, especially in connection with the religious evolution of mankind; situated on the S. end of a plateau between the Judæan watershed ridge and the ridge of Olivet; 32 miles from the coast of the Mediterranean, 14 miles W. of the N. end of the Dead Sea. The plateau is penetrated by two deep waterless valleys running roughly N. and S. The E. one, called the Valley of Kidron, extends along the W. base of Olivet for about a mile and a half, terminating S. at a well, known as Bir Eyyub; and the W. or Wadi er-Rababi, runs S. for about half a mile from near the main watershed, and then turns E. to join the Kidron valley. A sort of branch near the head of the Tyropæon divides the W. ridge into two summits, a N. and a S., connected by a narrow saddle; but the E. ridge is undivided, except by a trench cut in the rock at its narrower central part. The N. part of the plateau was known as Bezetha, or "place of olives." The heights above sea-level of the chief summits of the site are: N. summit

of E. ridge, 2,440 feet descending S.; N. summit of W. ridge, 2,490 feet; S. summit of W. ridge, 2,520 feet. There is no doubt that the temple stood on the N. E. hill, in the enclosure known as Haram-esh-Sherif, but a difference of opinion still prevails regarding the site of Zion or the City of David. Tradition following Josephus places it on the S. W. summit, but most recent authorities support the view that the City of David was built on the E. ridge to the S. of the Temple hill. The rectangular S. W. summit was the site of what Josephus calls the Upper City.

The present city wall, with 34 towers, incloses the Temple hill, Bezetha, the N. W. summit and the N. part of the S. W. hill, but excludes the true Zion hill, or that on which the City of David stood. The water supply of Jerusalem is obtained mainly from rain tanks, but the town was once partially supplied from the Virgin's Spring, on the E. side of the S. E. hill. An ancient aqueduct connects this spring with the Pool of Siloam, at the S. end of the ancient Zion. The Hammam esh-Shefa is an underground cave well W. of the Temple hill.

Since 1892 Jerusalem is reached from Jaffa by a circuitous narrow-gauge railroad route of fifty-four miles. The city is divided by the main street running from the Damascus gate S. to near the Zion gate, and that running E. from the Jaffa gate to the Haram into four quarters. The N. E. quarter is inhabited by Mohammedans, and the S. E. by Jews, while the two W. quarters are occupied by Armenians (S.) and other Christians (N.) respectively. The city is now governed as an independent sanjak by a mutessarif of the first class, immediately subject to the Turkish government at Constantinople. There are an executive council and a town council, on both of which the chief religious groups are represented.

By far the most interesting part of Jerusalem proper is the Haram esh-Sherif, the site of the celebrated temple and palace of Solomon and of the later temples. Some remains of Herod's temple are still to be seen. The Haram is roughly rectangular, about 527 yards by 330, and on the W. and N. sides, where there are some houses, several gates communicate with the

rest of the city. Near the center of this area is an elevated platform approached by flights of steps on all sides, and on it stands the beautiful octagonal Kubbet es-Sakhra, or Dome of the Rock. Each side of the octagon is 66 feet 7 inches long, and is adorned on the outside with marble and porcelain tiles, and in each of the four sides which face the cardinal points is a square gate surmounted by a vaulted arch. The dome is supported on a circle of supports in the interior, consisting of four massive piers facing the middle points of the N. E., N. W., S. E., and S. W. faces of the octagon and of 12 columns; and between this circle and the outer walls there is an octagonal series of supports, comprising 8 corner piers and 16 columns. The dome itself is of wood, and beneath it is the Sacred Rock.

Outside the limits of the Haram the most noteworthy building is the Church of the Holy Sepulcher in the Christian quarter which was erected in its original form as early as the 4th century, but the greater part of the present structure dates only from the beginning of the 19th century. The main part of the church is the rotunda, with a dome 65 feet in diameter (restored 1868), resting on 18 piers, and beneath the latter is the small Chapel of the Sepulcher. Immediately E. of the Rotunda is the Catholicos, or Church of the Crusaders, erected in 1140-1149, and originally a separate building. The church buildings are said to include, to the S. E. of the Rotunda, the hill of Golgotha or Calvary, and at every step we are met with more or less doubtful identifications of spots associated with the life of Jesus. The 22 chapels associated with the central parts of the church are all more or less interesting. The Via Dolorosa, along which Jesus is said to have carried the cross to Calvary, follows the present street, Tarik Bab Sitti Maryam, from St. Stephen's gate.

The earliest historical mention of Jerusalem is in the Tell el-Amarna tablets (about 1400 B. C.). It was then subject to Egypt. Later we find it in the hands of a people called Jebusites, from whom it was captured by David. Under him it rose rapidly in importance and received numerous

embellishments; but these were all eclipsed by the more magnificent structures of Solomon, whose crowning work was the erection of the great temple. The rash proceedings of his successor, Rehoboam, and the consequent revolt of 10 tribes must have shorn Jerusalem of much of its glory; but it still continued for several centuries to take precedence as one of the most distinguished cities of the East. At length, having awakened the jealousy or excited the avarice of neighboring potentates, it was attacked in succession by the Egyptians, Assyrians, and Babylonians. The last were headed by Nebuchadnezzar, who, 588 B. C., having made himself master of the city, destroyed it, burned down the temple after rifing it of its treasures and carried off those of the inhabitants whom the sword had spared as captives to Babylon. After 70 years of captivity, Cyrus permitted the Jews to return; and the temple, though on a scale of much less magnificence than before, was rebuilt 515 B. C. Jerusalem now enjoyed a period of repose and had regained a considerable degree of prosperity, when, on the dissolution of the Macedonian empire which Alexander had established, it was seized and sacked by Ptolemy Soter, who carried off a great number of the inhabitants to Alexandria. By the victorious achievements of the Maccabees, the Macedonian yoke was thrown off, and Jerusalem in common with Judea, became once more independent, 165 B. C. It next became tributary to Rome; but continuing to be governed by its own sovereigns had not ceased to exist as the capital of a kingdom when the Saviour appeared. About 40 years after His death the tyranny of the Romans drove a section of the Jews into revolt, and in A. D. 66 Jerusalem was taken by the insurgents. Titus, the son of the Emperor Vespasian, regained it in the year 70, after one of the most terrible sieges recorded in history; the temple was burned and the city razed to the ground. In 131 Hadrian ordered the city to be rebuilt. The Jews, apprehending that pagan idols would be set up in the holy places, broke into rebellion and took Jerusalem, which the Romans recaptured only after a protracted and sanguinary contest. They then fin-

ished the building of the city, and, calling it *Ælia Capitolina*, made it a Roman colony and forbade the Jews to approach it on pain of death.

It continued thus depressed till the beginning of the 4th century, when Rome having become Christian, Jerusalem shared in the benefit and assumed the appearance of a distinguished Christian city, under the fostering care of Helena, mother of Constantine the Great. This period of prosperity, prolonged by a succession of Christian emperors, was suddenly terminated in 636 by the conquest of the Mohammedans, under the Arabian Caliph Omar, whose dynasty was afterward succeeded by that of the Turks. The indignities and cruelties heaped on the Christians and the utter desecration of their most holy places roused the indignation of Europe, and led to the Crusades. In 1099 the Crusaders took Jerusalem by storm and made it the capital of a Christian monarchy which with difficulty maintained its existence till 1187, when it was finally overthrown by the celebrated Sultan Saladin.

Palestine was conquered during the World War by British troops under Field Marshal Viscount Allenby and became a British mandate. Jerusalem surrendered Dec. 9, 1917, after Turkish rule since 1517.

Jessup, Henry Harris, an American missionary; born in Montrose, Pa., April 19, 1832; graduated at Yale College in 1851, and at the Union Theological Seminary in 1855; ordained in the Presbyterian Church; was a missionary in Tripoli, Syria, in 1856-1860; then in Beirut. D. 1910.

Jest Book, a compilation of pleasantries, or a collection of witty sayings and practical jokes which go under the names of certain men who were celebrated in their day as "merry fellows."

Jesters, persons formerly kept in the households of princes and lesser dignitaries to furnish amusement by their real or affected folly, and hence commonly called court fools.

Jesuit, a companion of the Society of Jesus, the most celebrated ecclesiastical order of modern times. It was founded by Ignatius Loyola, who was born in 1491. He became an officer of

great bravery in the army. Dreadfully wounded in 1521, and long confined in consequence to a sick bed, he saw the vanity of the world, and renouncing it, resolved in future on a religious life. When, on his recovery, at the University of Paris, he made converts of two fellow students who lodged with him, one, Francis Xavier, afterward the Apostle of the Indies. In 1534 he and they, with four others, seven in all, formed a religious society, the members of which preached through the country. On Aug. 15, of that year they took vows of chastity, absolute poverty, devotion to the care of Christians, and to the conversion of infidels. This was the germ of the Jesuit order. Loyola was devotedly attached to the old order of things, rudely shaken by the Reformation. A soldier, he be thought him of an army in which inferiors should give implicit obedience to their superiors. A general should command, and should have none above him but the Pope, to whom he should give loyal support. Paul III. issued a bull in 1540 sanctioning the establishment of the order. In 1542 Loyola was chosen general and afterward resided at Rome. His followers went everywhere. His order spread with great rapidity, and at the death of Loyola, on July 31, 1556, consisted of above 1,000 persons, with 100 houses divided into 12 provinces. The Jesuits rendered great service to the papacy. In September, 1759, an order was given for the expulsion of the Jesuits from Portugal and Brazil. In 1764 the order was suppressed in France, and its property confiscated. On March 31, 1767, similar destruction overtook it in Spain, and soon after in Spanish America, and next, after 1768, in the Two Sicilies and Parma, till at length on July 21, 1773, the Pope issued a bull suppressing the order altogether. Austria and the other Roman Catholic States obeyed the decree. In August, 1814, Pope Pius VII. reestablished it. In June, 1817, the Jesuits were expelled from Russia, and the British Roman Catholic Emancipation Act, passed in 1829, left them under some disabilities which have since been removed. The bill regulating religious communities, which went into force in France in 1901, greatly restricted the Jesuits

in their educational work. Roman Catholic higher education in the United States is largely under the control of the Jesuits.

Jesup, Morris Ketchum, an American banker; born in Westport, Conn., June 21, 1830; engaged actively in banking in 1852-1884; retiring in the latter year. In 1881 he became president of the New York City Mission and Tract Society, for which he built the DeWitt Memorial Church in Rivington street as a memorial of the Rev. Doctor DeWitt. He was made president of the Five Points House of Industry in 1872; was a founder of the Young Men's Christian Association; elected president of the Metropolitan Museum of Natural History in 1881, and of the New York Chamber of Commerce in 1899. In 1897 he agreed to provide funds for an anthropological exploration of Northwestern North America and Eastern Asia. He died Jan. 2, 1908; bequeathed \$1,000,000 to the American Museum of Natural History.

Jesus Christ (Iesous, the Greek form of Joshua or Jeshua, contracted from Jehoshua, meaning, help of Jehovah, or saviour; Christos, anointed), the son of God, the Saviour of men, whose birth, life and death were predicted by prophets, and attended with miraculous manifestations of divine power; was born of the Virgin Mary, of the tribe of Judah, who was betrothed to Joseph, the descendant and heir of the house of David. Two genealogies of Joseph are given—one by Matthew, chap. i: the other by Luke, chap. iv. The former is supposed to contain the list of heirs of the house of David, whether by direct or indirect descent; the other the direct ancestors of Joseph. It was foretold that Christ should be of the seed of Abraham and the son of David. The place of His birth was Bethlehem; the time, according to the received chronology, was in the year of Rome 754. Scholars are now almost unanimously agreed that this date is too late, and it is generally placed about four years earlier.

The coming of a forerunner to the Saviour, John the Baptist, in the spirit and power of Elias, was foretold by an angel (Luke i: 17). The angel Gabriel announced to Mary that the

power of the Highest should overshadow her, and that she should bear a son who should rule over the house of Jacob forever; and on the night of His birth an angel appeared to some shepherds, and announced the coming of a Saviour. On the eighth day He was circumcised according to the law of Moses, and on the 40th was presented in the temple, where the aged Simeon pronounced Him to be the light of nations and the glory of Israel. The coming of the divine infant was also hailed by the adoration of the Magi or wise men of the East, who were miraculously directed to the house where the young child was.

Herod, alarmed by these indications, determined to destroy all the male children of Bethlehem and its vicinity of the age of less than two years, for the purpose of effecting the death of Jesus. But Joseph, being miraculously warned of the danger, fled to Egypt with the virgin and her child, and on his return, after the death of Herod, went to reside at Nazareth in Galilee, whence Jesus is called a Nazarene. We have no further accounts of the earlier years of Jesus except the remarkable scene in the temple when He was 12 years old, and the general observation of Luke, that He remained in Nazareth with His parents and served them.

At the age of about 30 (Luke iii: 23) He was baptized by John in the river Jordan, the Spirit of God descending upon Him like a dove, and a voice from heaven proclaiming, "Thou art my beloved Son; in thee I am well pleased." Previously, however, to entering on His office of divine teacher He retired to a solitary place, where He passed 40 days in fasting, meditation, and prayer, previous to the remarkable scene of the temptation described by the evangelists—Matt., chap. iv.; Mark i: 12-13; Luke, chap. iv. He was afterward transfigured in the presence of three of His disciples, when Moses and Elias appeared to Him from heaven, and His raiment became white and shining, and His face shone as the sun. On this occasion again a voice came from heaven saying "This is my beloved Son; hear ye Him" (Matt., chap. xvii.; Mark, chap. ix.; Luke, chap. ix., verses 28-36).

His mission is generally considered to have occupied three years, spent in acts of mercy (chiefly miraculous), in inculcating a purer system of morals, more exalted notions of God, and more elevating views of man and his destiny than had yet been presented to the world. His doctrine is embodied chiefly in the sermon on the mount (Matt., chap. v.-vii., and Luke, chap. vi.), containing the form of prayer He taught to His disciples, commonly called the Lord's Prayer; in His discourses to the Jews in John, chap. v.-viii. and x.; to His disciples, chap. xiv.-xvi.; and His intercessory prayer, chap. xvii.

He chose 12 apostles to be the companions of His ministry, the witnesses of His miracles, and the depositories of His doctrine; and He was betrayed into the power of His enemies by one of these with the mockery of a friendly salutation. Betrayed by one, denied by another, and abandoned by all, He was carried before the Jewish priests, found guilty, and by them delivered over to the Roman magistrates, who alone had the power of life and death.

Condemned to death as a disturber of the public peace, He was nailed to the cross on Mount Calvary, and it was in the agonies of this bitter death that He prayed for the forgiveness of His executioners, and with a touching act of filial love commended His mother to His favorite disciple. The evangelists relate that from the hour of noon the sun was darkened and three hours after, Jesus, having cried out, "It is finished!" gave up the ghost. The veil of the temple, they add, was torn asunder, the earth shook, rocks were rent, and the tombs opened. The centurion who was present directing the execution exclaimed, "Truly this was the Son of God!" The body of Jesus was taken down by Joseph of Arimathea and placed in a tomb, about which the Jewish priests, remembering His prophecy that He should rise on the third day, set a guard, sealing up the door. Notwithstanding these precautions His prophecy was fulfilled by His resurrection on the first day of the week (Sunday), and He appeared repeatedly to His disciples to encourage, console, and instruct them. On the 40th day after His resurrection, while with them on the Mount of

Olives, after He had given them instructions to teach and proselytize all nations, promising them the gift of the Holy Spirit, a cloud received Him out of their sight, and He was taken up to heaven. While the disciples stood gazing after Him two men in white apparel appeared to them, and predicted His coming again in like manner as they had seen Him go. See the closing chapters of the four evangelists and Acts i: 1-14.

Jet, a dense variety of lignite passing by degrees of quality into bituminous fossil wood, sometimes perfectly black. Cut, carved and polished it is used for ornaments.

Jethro, a king and priest of the Midianites, surnamed Raguel, who received Moses into his family when he fled from Egypt, and gave him his daughter Zipporah in marriage. When Moses had delivered the Israelites from their bondage, Jethro met him and delivered him his wife and children.

Jetsam. See FLOTSAM.

Jetty, in architecture, the part of a building which jets or juts over beyond the ground plan. In hydraulic engineering, (1) a construction of wood, rubble-stone, or masonry projecting into the sea, and serving as a wharf or pier for landing and shipping, or as a mole to protect a harbor. (2) A structure round the piled foundation of a bridge pier.

Jenness Doree ("gilded youth"), a party name given to those young men of Paris who, during the French Revolution, struggled to bring about the reaction or counter-revolution after Robespierre's fall (July 27, 1794). The term is still in use to designate young men about town, who live a butterfly life of enjoyment and pleasure.

Jevons, William Stanley, an English logician; born in Liverpool, in 1835; was educated at University College, London; he was drowned in 1882.

Jew, The Wandering, a mythical personage who forms the subject of many popular traditions. According to one account, he was a carpenter; and as our Saviour passed his workshop on His way to execution, the soldiers begged that He might be allowed to enter for a few moments and rest;

but he not only refused, but insulted Him. By another account he was a shoemaker, sitting at his bench as our Saviour passed to Calvary, and not only refused to allow Him to rest for a few moments, but drove Him away with curses. Jesus calmly replied, "Thou shalt wander on the earth till I return." Driven by fear and remorse, he has since wandered, according to the command of our Lord, from place to place, and has in vain sought death amid all the greatest dangers and calamities to which human life is subject.

Jewett, Sarah Orne, an American writer; born in South Berwick, Me., Sept. 3, 1849; died June 24, 1909.

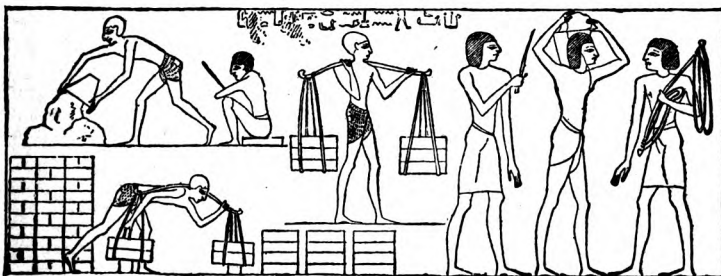
Jew Fish, the name given to two species of large fishes well known in American waters. The one known also as the guasa or black grouper sometimes reaches the weight of 700 pounds; the other inhabits particularly the Californian coast, often weighs 500 pounds, and has flesh of excellent quality.

Jewish Era, a calendar period of Hebrew origin. The Jews usually employed the era of the Seleucidæ till the 15th century, when a new mode of computing was adopted. They date from the creation, which they consider to have been 3,760 years and 3 months before the commencement of our era.

Jews, Hebrews, or Israelites, a people, whose ancestors appear very early in the written history of mankind on the banks of the Euphrates, Jordan, and Nile, and whose fragments are now to be seen in almost all the cities of the world; and preserving through the ages common features, habits, religion, literature, and the same language—a phenomenon unparalleled in history. Descended from Abraham, the Jews were at first called Hebrews, from the alleged ancestor of that patriarch, Heber. After the time of Jacob, their first appellation was replaced by the word Israelites, from Israel, a surname of Jacob. The term Jew, derived from Judæus, dates from the captivity of Babylon. The Jewish people assign their origin to Abraham, whom they designate the father of their race. After Abraham, Isaac, his son, became their chief; then Jacob, or Israel, the son of Isaac. Jacob had

12 sons, among them Judah, the ancestor of David and of Jesus Christ. The descendants of Jacob multiplying very rapidly, they were eventually divided into 12 tribes, each of which was regarded as having been founded by one of the children of Jacob. In the closing years of his life Jacob settled in Egypt, in the land of Goshen. His

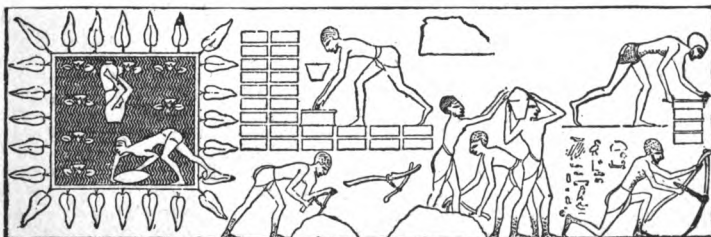
fided to a council of elders, then to judges; subsequently it became monarchical. Saul was the first King of the Jews; David succeeded him, and was followed by Solomon. These three kings established the dominion of the Jews throughout the ancient land of Canaan, and, for a short period, the kingdom extended to the Euphrates



CAPTIVITY OF THE JEWS: LABORERS.

posterity, powerful at first, were afterward enslaved and persecuted by the Pharaohs. Moses delivered them from their bondage in Egypt and put himself at their head to conduct them into the land of Canaan. Under his leadership the Jews miraculously passed the Red Sea, when Pharaoh and all his host were drowned. After wandering

and the Red Sea. But on the death of the last king the 12 tribes were divided, and from that schism sprang two kingdoms. The kingdom of Judah remained faithful to the lineal descendants of David, and offered allegiance to Rehoboam, son of Solomon; the kingdom of Israel elected for its sovereign Jeroboam. These two kingdoms,



CAPTIVITY OF THE JEWS: MASONS.

for 40 years in the desert, where Moses died, they reached the Land of Promise, their leader being Joshua, who had succeeded Moses. Joshua established the Jews in the Land of Promise, and dividing the country into 12 parts gave a portion to each of the 12 tribes. After Joshua, the government was con-

weakened by perpetual warfare and discord, were in the end enslaved. The kingdom of Israel was destroyed by Shalmaneser, King of Assyria, and the kingdom of Judah by Nebuchadnezzar, who first carried captive to Babylon a great part of the inhabitants. After a captivity of 70 years

the Jews obtained from Cyrus permission to reestablish themselves in Jerusalem. After the fall of the Persian empire the Jews passed successively under the dominion of Alexander; of Ptolemy, King of Egypt, and of Antiochus Epiphanes, King of Syria. After a desperate struggle, led by the Maccabean brothers, the Jews regained their independence but were afterwards subjugated by the Romans, under Pompey, and Herod I. was placed on the throne as vassal king. It was under the reign of Herod that our Saviour was born. After the death of King Herod, Palestine was distributed among his sons, and divided into four portions, called tetrarchies; but in a few years the Romans sent into the country a pro-consul, who governed in their name, and shortly afterward Rome was sole master of the kingdom.

When Christianity became the religion of the Romans, their condition became very miserable. Islamism treated them less rigorously. Under the reign of the Caliphs, the Jews of Asia, of Africa, and of Spain, were permitted to live in peace, and to cultivate commerce, letters, and the sciences. In Christian Europe, especially during the period of the Crusades, the Jews had to undergo every form of persecution, frequently being compelled to purchase life at the price of their hoarded gold; they were made to wear distinctive marks on their clothing, and afterward to dwell in separate quarters of every city. They were driven from England in 1290, from Central France in 1395, and from Spain and Sicily in 1492. In Germany, they belonged, like serfs, to the emperors and the nobles, who bought and sold them at their pleasure. The Inquisition was a particularly bitter foe to the Jews, especially in the Spanish dominions. In the 16th century, their condition became much improved. In France they were allowed to settle at Bayonne and Bordeaux in 1550; in 1784 they were relieved from the poll tax which had hitherto been imposed on them. Shortly afterward the other European States, except Russia, following the example of France treated them in a more liberal spirit.

In our own day and in almost every country they have illustrious repre-

sentatives in all departments of intellectual and business activity. Their religion is founded entirely on the Old Testament; it denies the divinity of Jesus Christ; but teaches its followers to believe in the coming of the Messiah, who will collect the scattered Jewish people and found a great empire. They observe the same ceremonies which the ancient Hebrews practised. With the ancient Jews all the priests were of the tribe of Levi. After the dispersion of the Jews, during the reign of Adrian, the principal doctors of religion assembled at Tiberias, where they formed a grand council, or Sanhedrim, and founded a school which became the nursery of their rabbis. These last composed, under the title of the Talmud, a work designed to contain the oral law and traditions of the Jews. This work, with the greatest portion of the Jews, became the basis of their faith; some, however, refused to accept it. Hence arose the division of the Jews into two rival sects—the Talmudists, or Rabbinites, who follow the Talmud; and the Caraites, who follow the strict letter of the Old Testament.

According to the latest statistics of David Trietsch, a German-Jewish statistician there are now 18,080,000 Jews in the world divided, in part, as follows: Poland and Ukraina, 3,300,000 each; United States, 3,100,000; Russia, 900,000; Roumania, 650,000; Germany, 540,000; Hungary, 450,000; Czechoslovakia, 450,000; British Isles, 300,000; Austria, 300,000. In the United States, the city of New York had a total of 2,003,922 Jews, giving this municipality the largest Jewish population of any in the world.

Jew's Harp, a small musical instrument shaped like a lyre. Is played with finger while held in the mouth.

Jezebel, a Jewish queen, celebrated for her impious life. She was daughter of Ethbaal, King of Sidon, and wife of Ahab, King of Israel. She turned her husband from the worship of the true God, established temples to the idol Baal, and caused a large number of prophets and holy persons to be put to death. Jehu, on gaining the throne, flung her from the windows of her own palace, which killed her. Her name is commonly applied to a rapacious, or vile woman.

Jiddah, or **Jeddah**, a seaport of the Hedjaz, Arabia; on the Red Sea, about 65 miles W. of Mecca, of which it is the port, and place of disembarkation for pilgrims. The massacre of the English and French consuls with other Christians in 1858, led to a bombardment and siege until reparation was made.

Jihad, or **Jehad**, a holy war proclaimed by the Mussulmans against Christians.

Jimmu-tenno ("Jimmu the emperor"), the supposed founder of the present Japanese dynasty, 5th in descent from the sun, and said to have ascended the throne in 660 B. C., the year from which the national records are dated. The national holiday, Feb. 11, is devoted to his worship.

Jin, or **Jinn**, in Mohammedan mythology, one of a race of genii said to have had for their male progenitor Jan, and for their female one Marija. They differ from man in their nature, their form and their speech. They are spirits residing in the lowest firmament, and have the power of rendering themselves visible to men in any form they please.

Jingo, a word whose derivation is unknown, but supposed to be a corrupted form of Jainko, the Basque name for the Supreme Being. It was first used as a political term in the Russo-Turkish War of 1877-1878, and was applied to politicians who urged on Disraeli, then Prime Minister of England, the necessity of taking sides with the Turks as the only patriotic and proper foreign politics. Since that time, the word has been used in both the United States and Europe as meaning one who advocates a spirited and aggressive foreign policy.

Jingo-Kogo ("Jingo the empress"), a Japanese ruler. On the death of her husband the emperor Juai in 200, she became regent for her son Ojin-Tenno. The Japanese paper currency of 1884 bears her figure. She died in 270.

Jin-riki-sha, a light two-wheeled carriage, resembling a gig, containing one or two persons, and drawn by a human runner between the shafts, universally used in Japan.

Joab, son of Zeruiah, David's sister, and brother of Abishai and Asa-

hel, was the commander of David's army during almost the whole of his reign (II Sam. v: 6-10). Valiant but unscrupulous, he committed many crimes, and was at length put to death by Solomon, (I Kings ii).

Joan, Pope, a mythical female said to have been Pope. A baseless legend recounts that when Pope Leo IV. died in 855, a strange young priest in Rome, with a great reputation for virtue and learning, was chosen successor as John VIII., by the clergy and people of Rome assembled in convocation. The supposed priest was presumably a young Englishwoman, daughter of an English missionary, who had been established at Fulda.

Joan of Arc, or **Jeanne d'Arc**, the Maid of Orleans; born of poor but devout parents, in the village of Domremy, Jan 6, 1412. Her religious faith was ardent almost from her cradle. During that unhappy time of national degradation a prophecy, ascribed to Merlin, was current in Lorraine, that the kingdom lost by a woman (Queen Isabella) should be saved by a virgin; and no doubt this, together with her visions, helped to define her mission to the brooding and enthusiastic mind of the young peasant girl. She put on male dress and a suit of white armor, mounted a black charger, bearing a banner of her own device. Her sword was one that she divined would be found buried behind the altar in the Church of St. Catharine de Fiebois. Thus equipped she put herself at the head of an army of 6,000 men, dictated a letter to the English, and advanced to aid Dunois in the relief of Orleans. Her arrival fired the fainting hearts of the French with a new enthusiasm, and on April 29, 1429, she threw herself into the city, and, after 15 days of fighting, the English were compelled to raise the siege and retreat. At once the face of the war was changed, the French spirit again awoke, and within a week the enemy were swept from the principal positions on the Loire. But all thoughts of self were lost in devotion to her mission, and now, with resistless enthusiasm, she urged on the weak-hearted Dauphin to his coronation. On May 24, 1430, she threw herself with a handful of men into Compiègne, which was then besieged by the forces

of Burgundy; was left behind by her men, taken prisoner, and sold to the English by John of Luxemburg. In December she was carried to Rouen, the headquarters of the English, heavily fettered and flung into a gloomy prison, and at length she was arraigned before the spiritual tribunal of Pierre Cauchon. Her trial was long, and was disgraced by every form of shameful brutality. She was burned at the stake May 30, 1431.

Joanna, one of the faithful women who ministered to Christ while living, and brought spices to his tomb. Her husband Chuza was a steward to Herod Antipas.

Joash, or **Jehoash**, the 8th King of Judah; born in 878 B. C. The prophet Joel was contemporary with him. He died in B. C. 838.

Joash II., the son and successor of Jehoahaz, King of Israel. There was much in his conduct to commend, and he was one of the best kings of Israel.

Job, a patriarch notable for his patience. In the English version of the Bible, Job stands 1st in order of the poetic books of the Old Testament, but it is the 3d in the Hebrew Scriptures, Psalms and Proverbs preceding it, and the Song of Solomon coming next. A prologue (ch. i., ii.) and the conclusion (ch. xlii: 7-17), are in prose. The rest is poetry and of a very high order. In the historical prologue Job is introduced as deeply pious and exceedingly prosperous. Satan insinuates that he is pious simply because God has bribed him to be so by means of his prosperity. Remove the latter, and the former will also depart. Instead of blessing, he will curse God to His face. To prove the falsity of this charge, Satan is allowed to strip Job of possessions and children and to afflict him with a loathsome disease. The patriarch bows uncomplainingly to the Divine decision, while the piety of his wife breaks down in the trial. Job's three friends—Eliphaz, Bildad, and Zophar—arrive to comfort him, and the poetry begins. Job, in despair, curses the day of his birth; Eliphaz replies, and Job makes a rejoinder. Bildad follows, and Job answers him. Zophar next speaks, and Job again replies (ch. iii.-xiv.). Each of the three friends speaks anew, Job thrice

replying (xvi.-xxii.). Then follow Eliphaz and Job, and Bildad and Job, Zophar remaining silent. A fourth speaker, a young man, Elihu, dissatisfied with the reply of the older three, feels vehemently moved to put in his word, and does so (xxxii.-xxxvii.). All the four proceed on the erroneous notion that whoever suffers more than others must have previously sinned more grievously than they (Luke xiii: 1-5). They infer that Job must have done so, Job, on his part, having long since been provoked to exclaim: "Miserable comforters are ye all!" (xvi: 2). Jehovah then answers the patriarch out of the whirlwind, and vindicates his conduct and views, Job answering in deepest abasement (xxxviii.-xlii: 6). The comforters are censured, are enjoined to offer sacrifice, and are pardoned on the intercession of Job, to whom are born exactly the same number of children he had lost (see i: 2, and xlii: 13), while he is granted twice his former possessions though before he "was the greatest of all the men of the earth" (see i: 3 and xlii: 12). He lives 140 years after his trial.

The book of Job is absolutely unique in the Old Testament. The hero is not a Jew. While the name Jehovah is used, the whole history of the Mosaic law and the chosen people is ignored. The author seems well acquainted with Egypt. The language is Hebrew, with various Aramaisms, and with a faint Arabic tinge. The view still held by most commentators is that the book is very ancient and its author probably Moses. The Talmud originated the view, since adopted by various Biblical critics, that the book is only a parable. But against this view may be quoted Ezek. xiv: 14, 20, and James v: 11.

Jochebed, the wife of Amram, and mother of Moses, Aaron, and Miriam. She was a daughter of Levi, and her husband's aunt, though such marriages were afterward prohibited.

Jodhpur, a town of Hindustan, capital of the State of Jodhpur. The State of Jodhpur is the largest in Rajputana. Pop. of State (1911) 2,057,553; town, 59,262.

Joel, the name of a Hebrew prophet and of more than 12 other persons mentioned in the Old Testament, etc. I Sam. viii: 23; I Chr. iv: 35, v: 12.

Joe Miller (from Joseph Miller, 1684-1738, a witty actor, who was a favorite about the time Congreve's plays were fashionable), a stale jest. The compilation, "Joe Miller's Jests," published a year after the death of the supposed author, was the work of John Mottley (1692-1750), but the term has been used to pass off, not only the original stock, but thousands of jokes manufactured long after Miller was buried.

Joffre, Joseph, a French military officer; born in Rivesaltes, Pyrenees, Jan. 12, 1852; was graduated at the Ecole Polytechnique and entered the army in 1870; after the Franco-Prussian war was engaged in engineering work in Indo-China, Tonkin, Formosa, and South Africa; became vice-president of the Superior War Council, Chief of the General Staff, and practically the head of the French army in 1911; served as commander-in-chief from the beginning of the World War till Dec. 27, 1916, when he was created Marshal of France and technical adviser to the Government. On April 24, 1917, he came to the United States as head of a special mission, and was received with honors by the Government and citizens. Died Jan. 3, 1931.

Johannesburg, a town in the Transvaal Province, S. Africa, the mining center of the Witwatersrand goldfields. It is a well-built modern city, founded in 1886. With suburbs, its population in 1921 was 288,131. Pop. about equally divided between white and black. The great Uitlander disaffection culminated here owing to Boer oppression. During the South African War, the town was captured by the British under Lord Roberts, May 29, 1900.

John, the name of four men mentioned in the New Testament.

(1) John the Baptist, the forerunner of Christ, was the son of the priest Zacharias and Elizabeth, the cousin of Mary, the mother of our Lord. He was a Nazarete from his birth, and he prepared himself for his mission by years of self discipline in the desert until at length he appeared to startle his hearers with the preaching of repentance. With the baptism of Jesus the more especial office of the forerunner ceased, and soon after his ministry came to a close. He had fearlessly de-

nounced Herod Antipas for taking Herodias, his brother Philip's wife, and was accordingly flung into prison, where ere long he was executed at the request of Salome, the daughter of the abandoned Herodias.

(2) John the Apostle. His father was Zebedee, his mother Salome. His father was a fisherman who kept hired servants (Mark i: 20), and was therefore of some position. John was called with his brother James to follow Jesus (Matt. iv: 21). In the first three Gospels he figures as Boanerges, or Son of Thunder (Mark iii: 17). In the 4th gospel the loving elements of his character alone appear. He was the disciple whom Jesus loved (John xx: 2). At the crucifixion the mother of Jesus was intrusted to his care, and he took her to his house (John xix: 27). With Peter he was early at the sepulcher (xx: 2-4). After the resurrection he remained at Jerusalem for at least 15 years (Acts iii, iv; see xv: 6 and Gal. ii: 9). At a later period he was banished to Patmos, where he saw the apocalyptic vision (Rev. i: 9). Tradition makes his last sphere Ephesus, where he died at an advanced age.

(3) A dignitary mentioned in Acts iv: 6.

(4) John Mark.

The Epistles General of John.—The first epistle: No name indicating authorship appears in the letter itself, but the style is that of the 4th Gospel, and 35 passages are nearly the same in each. The external evidence for its genuineness and authenticity is very strong. Its date has been fixed between A. D. 70 and 96 or 100, the last being the most probable. The epistle treats of love.

The second epistle: It is written by "the elder" to "the elect lady and her children."

The third epistle: This was addressed by "the elder" to "the well-beloved Gaius."

The Gospel According to John.—The 4th Gospel, and distinct from the others in various respects. They record chiefly the ministry of Jesus in Galilee; it treats of His labors in Jerusalem. While they chiefly illustrate His humanity, it gives special prominence to His divinity. But there are resemblances too. The family of Bethany

figures in Luke x: 38-42, as well as in John. So also the crucifixion and the resurrection are recorded in them all.

The author of the book of John was well acquainted with the topography of Jerusalem (v: 2, ix: 7), and with the Jewish feasts, which he carefully records (ii: 13, vii: 2, x: 22, etc.). The book itself does not name its author; the nearly uniform voice of antiquity assigned it to John. In modern times there has been serious controversy on the subject.

John, a name borne by 23 Popes.

John, King of England; born in Oxford in 1166, was the youngest son of Henry II. by Eleanor of Guienne. He gave up his kingdom to the Pope, receiving it again as a vassal. He rendered himself the object of such universal contempt and hatred that his nobles determined, if possible, to limit his power and establish their privileges; and though the Pope declared his disapprobation of their conduct, the barons assembled in arms at Oxford, where the court then was, and immediately proceeded to warlike operations. They were received without opposition in London, which so intimidated the king that he consented to whatever terms they chose to dictate. Thus was obtained that basis of English constitutional freedom known as "Magna Charta," which not only protected the nobles against the crown, but secured important privileges to every class of freemen. John, having collected an army of mercenaries, carried war and devastation throughout the kingdom. The barons sent a deputation to Philip of France, offering the crown of England to the dauphin Louis; who proceeded to London, where he was received as lawful sovereign. John was immediately deserted by all his foreign troops and most of his English adherents; but the report of a scheme of Louis for the extermination of the English nobility arrested his progress. While the king's affairs were beginning to assume a better aspect, he was taken ill, and died in Newark in 1216.

John III., King of Portugal, succeeded his father, Emanuel, 1521. The beginning of his reign was marked by dreadful earthquakes. His fleets penetrated far into the East and discovered Japan; and to insure the

tranquillity of his Indian settlements he sent among them the celebrated Francis Xavier. He died in 1557.

John III. (John Sobieski), King of Poland, was youngest son of James Sobieski, governor of Cracow, and educated at Paris. In 1665 he was made grand marshal and general of the Polish armies. He retook several cities from the rebellious Cossacks. In 1673 he gained the memorable battle of Choczim, near the Dniester, in which the Turks lost 28,000 men. On the death of Michael in the following year he was elected King of Poland, and shortly afterward compelled the Turks to sue for peace. He died in Warsaw, 1696.

John Bull, a collective name, used in a sportive manner in order to designate the English people. It was first employed by Dean Swift.

John Doe. See DOE, JOHN.

John, Knights of St., or Knights Hospitallers of St. John, afterwards called Knights of Rhodes, and finally Knights of Malta, were a celebrated military religious order, originating in a monastery founded at Jerusalem in 1048 by some merchants from Amalfi. The monastery was dedicated to St. John the Baptist, and the monks, who were called Brothers of St. John or Hospitallers, had the duty of caring for the poor and sick, and in general of assisting pilgrims. In 1118 the order was regularly instituted as a military order, with the duty, in addition to their vows of chastity, obedience, and poverty, of defending Christianity against infidels. In 1291, the order was driven from Palestine, and after many vicissitudes was installed in Malta, by Chas. V. in 1530. Here the Knights served as a bulwark against Turkey, until 1798, when Napoleon captured Malta the Knights dispersed, and their property was confiscated.

John of Austria, or **Don John**, a Spanish soldier; the natural son of the Emperor Charles V.; born in Ratisbon, Bavaria, Feb. 24, 1547. He was brought up in such ignorance of his birth that, till summoned by Philip II., his brother, to Spain, and there acknowledged as the emperor's son, he had been in total darkness as to who his parents were. His first triumph

was a victory over the Turkish galleys in the Gulf of Lepanto, in which the Ottomans lost 30,000 men; he next invaded Tunis, and in 1576 was sent by Philip as governor of the Low Countries; here, in a succession of splendid victories, he so reduced his antagonists that the country must soon have submitted and returned to its allegiance, had he not been suddenly carried off by poison, near Namur, Belgium, Oct. 1, 1578.

John of Gaunt, Duke of Lancaster, 3rd son of Edward III.; born June 24, 1340, in Ghent. He was a noted character in English history. He died in London, England, Feb. 3, 1399.

John o' Groat's House, in Caithness, Scotland, was, according to tradition, an octagonal building with eight doors and windows and an eight-sided table within, built by John o' Groat to prevent dissensions as to precedence among the eight different branches of his family. Between 1496 and 1525 there was one "John o' Groat of Duncansbay, baillie to the Earl in those parts."

John's, Eve of St., one of the most joyous festivals of Christendom during the Middle Ages, celebrated on midsummer eve.

Johns Hopkins University, in Baltimore, Md., founded by Johns Hopkins (q. v.), was incorporated in 1867, but not formerly opened till 1876, after his death. In 1928 it had 473 instructors, 1,866 students, and \$6,551,000 endowment. Connected with the university are a well-endowed hospital and a thriving press.

Johnson, Andrew, an American statesman, 17th President of the United States; born in Raleigh, N. C., Dec. 29, 1808. At 10 years of age he was indentured to a tailor, for whom he worked for seven years, receiving no schooling, but was taught to read by a fellow-apprentice. In 1826, with his mother, he migrated to Tennessee. Here he married Eliza McCordle, a woman of good education, who instructed him in writing and other accomplishments. He was three times elected alderman, and then mayor in 1828-1830. In 1835 and in 1839 he was sent to the Tennessee Legislature. In 1840 he made campaign speeches for Van Buren that gave him a wide

reputation for oratory. In 1843 he was elected to Congress, and reelected in 1845, 1847, 1849, and 1851. In 1853 Tennessee was "gerrymandered" to prevent his election, whereupon he ran for governor and was elected. In 1857 he was sent to the United States Senate, where he ably advocated and secured the passage of a homestead bill which President Buchanan vetoed. He ardently advocated the Union cause, and was made military governor of Tennessee by Lincoln in 1862, where he gave vigorous support to the Federal government. In 1864 he was elected Vice-President, with Lincoln, and on the assassination of Lincoln, in April, 1865, he became President by succession. His administration was marked by constant dissension between himself and Congress, and he was impeached before that body for resisting the execution of the acts of Congress and various alleged "high crimes and misdemeanors." The trial was presided over by Chief Justice Salmon P. Chase. A two-thirds vote necessary to convict could not be secured, and the trial failed (May 16, 1868). A change of one vote, however, would have carried conviction. When his term expired he retired to Tennessee, and in 1875 was elected to the United States Senate, but died July 31, of that year.

Johnson, Bradley Tyler, soldier, lawyer and author, born Frederick, Maryland, Sept. 29, 1829; student at Princeton and Harvard; brigadier-general in the Confederate army; died October, 1903.

Johnson, Bushrod Rust, an American military officer; born in Belmont co., O., Oct. 7, 1817. He was graduated at the United States Military Academy in 1840. He saw service in the Florida and Mexican Wars, but resigned his commission in 1847, and was made professor in the Western Military Institution of Kentucky, at Georgetown. He entered the Confederate army as a Brigadier-General at the commencement of the Civil War, and in 1864 became a Major-General. He commanded a division under General Lee till the surrender at Appomattox Court House. He was afterward appointed Superintendent of the Military College in the University of Nashville, and chancellor of that institution. He died Sept. 11, 1880.

Johnson, Charles Frederick, an American author; born in New York city in 1836. He was graduated at Yale in 1855; became Professor of English Literature at Trinity College, Hartford, Conn., in 1883. He is author of a number of text-books.

Johnson, Eastman, an American painter; born in Lovell, Me., July 29, 1824. In 1849 he went to Dusseldorf, where he studied two years, and afterward resided for four years at The Hague. He returned to New York in 1856. His favorite subjects are the American negro, rustic, and domestic scenes. He died Apr. 6, 1906.

Johnson, Emily Pauline (Tehahionwake), a Canadian poet; born in the Six Nations Reserve, Canada. Was of Indian descent. D. 1913.

Johnson, Helen Kendrick, an American author; born in Hamilton, N. Y., Jan. 4, 1843. In 1869 she married Rossiter Johnson; d. in 1917.

Johnson, Oliver, an American editor; born in Peacham, Vt., Dec. 27, 1809. He was editor of the "Independent" from 1865 to 1870; became editor of the "Christian Union" in 1872; was one of the founders of the New England Anti-Slavery Society in 1832. He died in Brooklyn, N. Y., Dec. 10, 1889.

Johnson, Reverdy, an American lawyer and statesman; born in Annapolis, Md., May 21, 1796; was admitted to the bar in 1815. In 1821 he was elected State senator and reelected in 1825. In 1845 he was chosen United States senator, and in 1849 was appointed by President Taylor, attorney-general. In 1868, he was appointed United States minister to the Court of St. James, where he negotiated a treaty for the settlement of the "Alabama" claims, which the United States rejected. He died in Annapolis, Feb. 10, 1876.

Johnson, Richard W., an American military officer; born near Smithland, Ky., Feb. 7, 1827. He was graduated at United States Military Academy in 1849. From 1855 to 1861 he was engaged in campaigns against the Indians. On the outbreak of the Civil War he was made Brigadier-General of volunteers. At the end of hostilities he retired with the rank of Major-General for wounds received, but under

a subsequent law of Congress, which retired officers on the rank actually held when disabled, he was reduced to the rank of Brigadier-General. He held professorship of military science at leading universities after his retirement. He died in St. Paul, Minn., April 21, 1897.

Johnson, Robert Underwood, an American poet and editor; born in Washington, D. C., Jan. 12, 1853; became associate editor of the "Century Magazine." His efforts in behalf of the establishment of international copyright were recognized by the degree of M. A., conferred by Yale University in 1891.

Johnson, Rossiter, an American encyclopedist and historian; born in Rochester, N. Y., Jan. 27, 1840.

Johnson, Samuel, one of the most distinguished English writers of the 18th century; born Sept. 18, 1709, in Lichfield, England, where his father, Michael Johnson, was a bookseller. In 1728 he entered Pembroke College, Oxford, but was obliged by poverty to retire after three years without taking a degree. He became successively an usher in Leicestershire, a bookseller's drudge in Birmingham, and the head of a school. The school failed, and in 1737, removing to London, Johnson entered on his long course of literary toil. His reputation rose very slowly; the greater part of his time was wasted for many years on desultory and occasional efforts. "Rasselas" (1759), written in a week to pay for his mother's funeral, is one of the most interesting and characteristic of his works. For eight years from 1747 Johnson's attention was chiefly engaged by his Dictionary of the English Language, a work which appeared in 1755, and is highly creditable to the author in the circumstances in which it was produced, but it is of little real philological value. Johnson lived in poverty till 1762, when he obtained, through Lord Bute, a pension of £300 a year. In 1763 the first interview with his famous biographer, James Boswell, took place. In 1773, accompanied by Boswell, he made his celebrated "Journey to the Western Isles of Scotland." His last literary work was the "Lives of the Poets" (1781). Died Dec. 13, 1784.

The concluding portion of Johnson's life was saddened by the loss of many old friends and by declining health. In 1783 he was greatly alarmed by a paralytic stroke and his health never wholly recovered from the shock, though he lived till Dec. 13, 1784. For some days previous he retained all his horror of dissolution; but he finally died with devotional composure. His remains were interred in Westminster Abbey with great solemnity. His statue has been placed in St. Paul's.

Johnson, Sir William, a British officer; born in Warrentown, County Down, Ireland, in 1715. In 1738 Johnson established himself on the Mohawk river, about 27 miles from Schenectady, N. Y. Here he speedily gained the confidence of the surrounding Indians, learned their language, and was adopted as a sachem by the Mohawks. In 1743 he was appointed by the British government chief superintendent of the Indians, and in 1750, a member of the provincial council. In 1755 he met and destroyed the French army under Baron Dieskau, at Fort George. In recognition of his services, Johnson was presented by the English government with a grant of 100,000 acres of land in the valley of the Mohawk, where he built the village of Johnstown, near where he died July 4, 1774.

Johnson, Albert Sidney, an American military officer; born in Macon co., Ky., in 1803; was graduated at the United States Military Academy in 1826; resigned his commission in the United States army in 1834, and enlisted in the army of Texas, of which he became commander-in-chief; made secretary of war of the Republic of Texas in 1838. He used all his influence in bringing about the annexation of Texas to the United States; and served in the Mexican War with marked distinction. In 1857 he was put in command of an expedition to Utah to force the Mormons to submit to the laws of the United States government, and showed such ability and tact in the delicate mission that he was brevetted Brigadier-General. When the Civil War broke out he was in command of the Department of the Pacific, but promptly resigned; was made a General in the Confederate army and assigned to the command of the Department of Kentucky. He

was killed at Pittsburg Landing, April 6, 1862.

Johnston, Joseph Eggleston, an American military officer; born in Cherry Grove, Va., Feb. 3, 1807; was graduated at the United States Military Academy in 1829; greatly distinguished himself in the Florida and Mexican Wars; promoted quartermaster-general of the army with the rank of Brigadier-General in June, 1860; resigned his commission when Virginia seceded; made Major-General of Virginia Volunteers and later full general in the Confederate service; took an active part in the first battle of Bull Run, where he personally led a charge with the colors of the 4th Alabama Regiment in his hands. In December, 1863, he took command of Bragg's army at Dalton, Ga., and by the spring of 1864 brought it to a state of efficiency which it had not had for a long time, though it contained only 45,000 men against Sherman's 98,797. On July 17, 1864, Johnston was succeeded in this command by General Hood. After the war he engaged in business; was member of Congress in 1876-1878, and United States Commissioner of Railways in 1885-1889. He died in Washington, D. C., March 21, 1891.

Johnston, Richard Malcolm, an American author; born in Powelton, Ga., March 8, 1822; Professor of Literature in the University of Georgia in 1857-1861; officer in the Confederate service during the Civil War; from 1867 devoted himself to literature. Died Sept. 23, 1898.

Johnston, William Preston, an American educator; born Louisville, Ky., Jan. 5, 1831; colonel and aide-de-camp to Jefferson Davis in Confederate army during Civil War; and president of Tulane University from 1884 till his death, July 16, 1899.

Johnstown, city and capital of Fulton county, N. Y.; on Cayadutta creek and the Fonda, Johnstown & Gloversville railroad; 48 miles N. W. of Albany; is chiefly engaged in the manufacture of gloves, leather, lumber and knit goods. Pop. (1930) 10,801.

Johnstown, a city in Cambria co., Pa., 78 miles E. of Pittsburg. It contains the great Cambria iron and steel plant, wire, tinplate, wall-paper, paint, cement, fire brick, and leather and

woolen manufactories. On May 31, 1889, the city was the scene of a terrible disaster caused by the breaking of the dam across the South Fork of the Conemaugh river, at a point 10 miles E. of the city. The entire valley was in a few minutes devastated and the city of Johnstown and its surrounding villages were practically swept away. Various estimates placed the loss of life at from 2,300 to 5,000, and the property destroyed was estimated at \$10,000,000. Pop. (1930) 66,993.

Joinder, in law, the joining or coupling of two things in one suit or action; also the joining or coupling of two or more parties as defendants in one suit; or the acceptance by a party in an action of the challenge laid down in his adversary's demurrer or last pleading.

Joint Stock, stock held jointly or in company. A joint stock company is a kind of partnership entered into by a number of individuals for the purpose of carrying on some trade or business with a view to individual profit; invested by statutes, in many of the United States, with some of the privileges of a corporation. In ordinary partnerships the members contribute more or less of their own personal labor or management to the affairs of the company. In joint stock partnerships, on the other hand, the members only contribute to the funds or "stock" of the company without having any direct share in the management; and hence their name.

Jointure, an estate in lands or tenements settled upon a woman in consideration of marriage, and which she is to enjoy after her husband's decease.

Joinville, Francois Ferdinand Philippe Louis Marie d'Orleans. Prince de, third son of Louis Philippe, King of France; born in Neuilly near Paris, France, Aug. 14, 1818. On completing his education he entered the French navy. In 1836 he became lieutenant; during the war with Mexico, in 1838, he engaged the batteries of St. Jean d'Ulloa, with his corvette the "Creole"; and shortly afterward, at the head of his sailors, stormed the gate of Vera Cruz and took prisoner General Arista, for which he received

the cross of the Legion of Honor, and was appointed post-captain; in 1840 he brought to France from St. Helena the remains of Napoleon I. With his nephews, the Comte de Paris and the Duc de Chartres, he accompanied General McClellan in the Virginian campaign of 1862, and published on it an impartial article in the "Review of Two Worlds," of 1863; he served incognito in the Franco-Prussian war, 1870-1871; in 1873 he was elected to the French Assembly. He died in Paris, France, June, 17, 1900.

Jokai, Maurus, a Hungarian novelist; born in Komora, Feb. 19, 1825. During the Hungarian struggle of 1848 he was an active patriot, but after the restoration of Austrian rule devoted himself to fiction. D. 1904.

Joliet, city and capital of Will county, Ill.; on the Des Plaines river, the Illinois & Michigan canal, and the Chicago & Alton and other railroads; 37 miles S. W. of Chicago. It is in a region abounding in the well-known Joliet limestone; has excellent water-power, manufactures Bessemer steel, tinplate, machinery, lime, bricks, marble-work, cereal foods, barbed wire, horse-shoes, hardware, and other commodities; and is the seat of St. Francis' and St. Mary's academy, a convent, and the Northern Illinois State Prison. Pop. (1930) 42,993.

Joliet, Louis, a French-Canadian explorer; born in Quebec, Canada, Sept. 21, 1645. In 1672 he was commissioned by Frontenac, the governor of New France, to make explorations in that country, and in 1673, in company with Father Marquette, a Jesuit priest, and five other Frenchmen, he explored the Fox, Wisconsin, Illinois, and Mississippi rivers. He died in May, 1700.

Jonah, a prophet, the son of Amittai, and a native of Gath-hepher. He lived prior to or in the reign of Jeroboam II., who became king 824 B. C.

The Prophecies of Jonah are fifth in order of the minor prophets, but perhaps the first in date. The book is partly in prose, partly in poetry. It opens with a divine command given to Jonah to go to Nineveh and cry against it for its wickedness. In place of obeying this injunction, the prophet, who was of perverse disposi-

tion, went to the sea and paid his fare for a voyage to Tarshish. A storm arising, the story continues, those on board cast lots to ascertain whose delinquency had raised the tempest, and the lot fell on Jonah. He, having admitted that he was fleeing from Jehovah, was cast overboard by his comrades, when the agitated ocean sank into a calm. A great fish swallowed the prophet, who remained alive in the body three days and three nights. His prayer offered from his living dungeon being answered, the fish vomited him out on the dry land. The closing episode of the narrative represents the prophet in the execution of his ministry. A second time he was ordered to go to Nineveh, and this time he obeyed. The people, alarmed by his declaration that in 40 days the city should be destroyed, humbled themselves before God and thus averted the threatened judgment.

Jonathan, a son of Saul, and the constant and unshaken friend of David, proving the sincerity of his regard by repeatedly saving his friend's life when threatened by the fury of his father. Jonathan fell in battle in the war with the Philistines.

Jones, Charles Colcock, an American author; born in Savannah, Ga., Oct. 28, 1831. He was lieutenant-colonel in the Confederate service during the Civil War, afterward removing to New York, where he practised law. He died July 19, 1893.

Jones, Inigo, an English architect; born 1573; died 1652. Among his best known buildings are Whitehall Banqueting House, Ashburnham House, and Shaftesbury House.

Jones, Jacob, an American naval officer; born near Smyrna, Del., in March, 1768; joined the United States navy in 1799; served in the war with Tripoli; was captured in 1803 and held a prisoner for 18 months; made commander of the "Wasp" in 1811, and with her captured the English brig "Frolic" Oct. 18, 1812, but on the following day he fell in with the English war vessel "Poictiers," 74 guns, by which both the "Wasp" and its prize were taken. For his victory over the "Frolic" Jones was voted a gold medal by Congress, and \$25,000 was granted to him and his crew in payment of the personal loss they had sus-

tained. He died in Philadelphia, Pa., Aug. 3, 1850.

Jones, John Paul, an American naval officer; born in Kirkham, Kirkcudbrightshire, Scotland, July 6, 1747. His father, whose name was John Paul, was gardener to the Earl of Selkirk. He entered the merchant service, was engaged in the American and West Indian trade, and is said to have realized a handsome fortune. On the outbreak of war between the colonies and mother country he offered his services to the former, and in 1778, being then in command of the "Ranger," he made a descent on Whitehaven, set fire to the shipping, and plundered the Earl of Selkirk's mansion. Next year, in command of the "Bon Homme Richard" (42 guns) and a small squadron, he threatened Leith, and captured the British sloop of war "Serapis" after a bloody engagement off Flamborough Head. On his return to America he was somewhat neglected by Congress, and in 1788 entered the Russian service with the rank of rear-admiral, but owing to the jealousy of the Russian commanders soon retired from this service. He returned to Paris, where he died July 18, 1792. His body was brought to the U. S. and deposited in a mausoleum at Annapolis, July 29, 1905.

Jones, Samuel Milton, a politician and philanthropist; born at Beddgelert, Wales, Aug. 3, 1846; died in Toledo, O., July 12, 1904. Born in poverty he was a child worker, and came to America in 1864. He made a fortune in oil well inventions; became famous as the "Golden Rule" Mayor of Toledo, being elected four times.

Jongleurs, among Provencals and Northern Frenchmen, a class of minstrels during the Middle Ages who sang and often composed poems, songs, and fabliaux, and who frequented courts, tournaments, castles, and towns for that purpose.

Jonquil, a bulbous plant allied to the daffodil. It has long lily-like leaves, and spikes of yellow or white fragrant flowers. The sweet-scented jonquil is also generally cultivated. Perfumed waters are obtained from jonquil flowers.

Jonson, Benjamin, commonly called Ben Jonson, a celebrated Eng-

lish dramatist, the contemporary and friend of Shakespeare; born in Westminster, England, in 1573. In 1598 he produced his comedy of "Every Man in His Humor," which was followed by a new play every year till the reign of James I., when he was employed in the masques and entertainments at court. In 1619 he was appointed poet-laureate, with a salary of \$500, and a butt of canary wine yearly from the king's cellars. Want of economy, however, kept him constantly poor, though in addition to the royal bounty he had a pension from the city. He died Aug. 16, 1637, and was buried in Westminster Abbey, where a tablet has been erected to his memory.

Joplin, a city in Jasper county, Mo.; on the Missouri Pacific and other railroads; 155 miles S. of Kansas City; is noted as the center of an exceptionally rich lead and zinc section; has Grand Falls, Castle Rock, and Midway Park nearby; is chiefly engaged in commerce, zinc smelting, and the manufacture of boilers and foundry products. Pop. (1930) 33,454.

Jordan ("descending"), the principal river of Palestine; formed by the junction of three streams; flows S., and after a course of a little over 100 miles falls into the Dead Sea, 1,292 feet below the Mediterranean.

Jordan, David Starr, an American educator; born in Gainesville, N. Y., Jan. 19, 1851. He was president of the University of Indiana in 1885-1891; of Leland Stanford, Jr. University in 1891-1913; then chancellor there to 1916, then emeritus. He served on a number of important government commissions.

Jordan, Thomas, an American military officer; born in Luray, Va., Sept. 30, 1819; was graduated at the United States Military Academy in 1840; promoted 1st lieutenant in June, 1846, and distinguished himself in the Mexican War; was promoted captain in March, 1847; was stationed on the Pacific coast in 1856-1860, during which time he introduced steam navigation above the Dalles, on the Columbia river. He entered the Confederate service in 1861, with the rank of lieutenant-colonel; promoted Brigadier-General for gallantry at the battle of Shiloh. In 1869 he went to Cuba, where he was made chief of the gen-

eral staff of the insurgent army and soon afterward commander-in-chief of the revolutionists; won a battle at Guarmaro, in January, 1870. In the following year he resigned and settled in New York city, where he became editor of "The Financial and Mining Record." He died in New York city, Nov. 27, 1895.

Jordan, William George, an American journalist; born in New York city, March 6, 1864; was graduated at the College of the City of New York; began his career as an editor in 1884, and afterward was engaged in the preparation of "Jordan's Guide to Poetry and Prose"; became managing editor of the "Ladies' Home Journal" in 1897, and of "The Saturday Evening Post" in 1898. His writings relate largely to mental training and its fruitage.

Jorullo, Xurullo, or Xorullo, a volcano of Mexico, about 75 miles S. S. W. of Valladolid, and 80 miles from the Pacific Ocean. The site of this remarkable mountain was formerly a fertile plain, about 2,890 feet above sea-level, but a violent eruption, on Sept. 28 and 29, 1759, raised it to an elevation of 4,265 feet, and sent forth immense quantities of lava, with stones of great size. The San Pedro and Cuitimba, two rivers which formerly watered this tract, sink into the earth on the E. side, and appear again as hot springs on the W. side of the elevation.

Joseffy, Rafael, a piano-virtuoso composer, and teacher; born in Miskolc, Hungary, in 1853; pupil of Moscheles and of Tausig; made successful concert tours in the United States and Europe, and became a teacher in New York. He was composer of numerous musical works and productions for the piano, and had gratifying success as an instructor. He died June 25, 1915.

Joseph, the son of Jacob and Rachel; born in Mesopotamia 1747 B. C. His history is one of the most pleasing and instructive in the Bible; and is related in language inimitably natural, simple, and touching. It is too beautiful for abridgment, and too familiar to need rehearsal. Joseph died, aged 110, 1637 B. C.; and when the Israelites, a century and a half later, went up from Egypt, they took his bones, and at

length buried them in Shechem. A Mohammedan wely or tomb covers the spot regarded generally, and it may be correctly, as the place of his burial. It is a low stone enclosure, and stands in quiet seclusion among high trees at the W. entrance of the valley of Shechem, at the right of the traveler's path, and nearer Mount Ebal than Mount Gerizim.

Joseph, the husband of Mary, Christ's mother. His genealogy is traced in Matt. i: 1-15, to David, Judah, and Abraham. His residence was at Nazareth in Galilee, where he followed the occupation of a carpenter, to which Christ was also trained (Mark vi: 3). When he became the husband of Mary, he was somewhat advanced in age, and is generally supposed to have died before Christ began His public ministry.

Josephine, Marie Rose, Empress of the French; born in the island of Martinique, June 23, 1763. When about 15 years of age she went to France, and in 1779 married Viscount Alexandre Beauharnais. A daughter of this marriage, Hortense, Queen of Holland, was the mother of the Emperor Napoleon III. Josephine's husband was executed during the Reign of Terror, she herself just escaping. On March 9, 1796, she was married to Napoleon Bonaparte. But her marriage with Napoleon proving unfruitful, it was dissolved by law, Dec. 16, 1809. She died in Malmaison, near Paris, May 29, 1814. Napoleon was deeply attached to her, and careful of her welfare even after the divorce, and she on her part loved him to the last.

Josephus, Flavius, a famous Jewish historian; born in Jerusalem in A. D. 37. He was a Jewish officer and took part in the revolt against Rome, but is best known for his historical writings. His works are written in Greek, and are: "History of the Jewish War" (about A. D. 75); "Jewish Antiquities" (about A. D. 93); His own "Life" (not earlier than A. D. 97); "A Treatise on the Antiquity of the Jews," or "Against Apion." He died about A. D. 100.

Joshua, the name of four persons mentioned in the Old Testament. One, the Jeshua of Ezra v: 2, the earliest and most celebrated of the four, after

whom the other three were named, was the son of Nun, an Ephraimite. Before the death of Moses, Joshua was divinely named his successor and formally invested with authority. He afterward led the Israelitish host in the conquest of Canaan. He died at the age of 110, and was buried at Timnath-serah, in Mount Ephraim.

The Book of Joshua.—The 6th book of the Old Testament, immediately succeeding the Pentateuch in the Hebrew. The name appears to have been given because Joshua was the leading human personage in the book. The events recorded are considered to have occupied about 25 years, from 1451 to 1425 B. C.

Josiah, King of Judah. He succeeded his father, Amon, 641 B. C., at the age of eight years. He destroyed the idols and restored the worship of the true God, established virtuous magistrates for the administration of justice, and repaired the temple. He also caused the law of Moses to be sought for and preserved. He was wounded in a battle fought at Megiddo against Necho, King of Egypt, and died in 610 B. C.

Joss, the penates of the Chinese; every family has its joss. A temple is called a joss house.

Joss Stick, in China, a small reed covered with the dust of odoriferous woods, and burned before an idol.

Joubert, Leo, a French biographer; born in Bourdeilles, Dordogne, France, Dec. 13, 1826. He was skillful, accurate, and readable, as a miscellaneous biographical writer; and his best studies, "Washington and the Formation of the Republic of the United States of America" (1888), "Alexander the Great" (1889), and "The Battle of Sedan" (1873), are popular.

Joubert, Petrus Jacobus, a Boer military officer; born in Cango, Cape Colony, in 1834; received a rudimentary education; settled in the Walkerstroom district of the Transvaal in early manhood; was elected to the Transvaal Volksraad in 1863; acting president of the republic in 1874; appointed a member of the triumvirate of 1880 to conduct war against Great Britain. On Feb. 27, 1881, he surprised the British encampment with a small force and won a decided vic-

tory, which soon resulted in terms of peace. He was acting president of the republic again in 1883-1884; trained the Boer army in the tactics which proved so successful against the vastly superior British army sent against the Transvaal and Orange Free State in 1898. He died in Pretoria, March 27, 1900.

Jouett, James Edward, an American naval officer; born in Lexington, Ky., Feb. 27, 1828; was graduated at the United States Naval Academy in 1847; destroyed the Confederate warship "Royal Yacht" in Galveston harbor in 1861; promoted lieutenant-commander in July, 1862; participated in the action at the entrance of Mobile Bay in 1864; directed the operations for the protection of American interests on the Isthmus of Panama during a rebellion in 1885; promoted rear-admiral, Feb. 19, 1886; retired, 1890. He died October 1, 1902.

Jouffroy d'Abbans, Claude, Marquis de, claimed by the French as the inventor of steam navigation; born in 1751. He served in the army, and in 1783 made a small paddle-wheel steamboat sail up the Rhone at Lyons—the connection between piston and paddle-wheel axle being rack-and-pinion. Compelled to emigrate by the Revolution, he failed, on account of financial ruin, to float a company till after Fulton had made his successful experiments on the Seine in 1803. He died in 1832.

Joule (named from the eminent English physicist, James P. Joule), in electricity, the unit of heat and work; the voltcoulomb.

Joule, James Prescott, an English physicist; born in Salford, England, Dec. 24, 1818. He studied under Dalton the chemist, made researches in electro-magnetism, about 1840 turned his attention to the subject of heat, and settled the theory of the mechanical equivalent of heat; which established that the quantity of heat capable of increasing the temperature of one pound of water by 1° F. requires for its evolution the expenditure of mechanical energy represented by the fall of 772 pounds through the space of one foot; wrote many scientific articles. He died in Sale, Oct. 11, 1889.

Joule's Law, a law which relates to the work done by an electric current in overcoming the resistance in the circuit.

Jourdan, Comte Jean Baptiste, a French marshal; born in Limoges, France, April 29, 1762. He entered the army at 16, and, after seeing service in North America, rose under the republic to the rank of a General of Division. In September, 1793, he obtained the command of the Army of the North, and after several encounters with the Austrians, in the first of which he was successful, he was beaten by the Archduke Charles at Amberg and Wurzburg; this discomfiture made him resign his command. The First Consul employed him in 1800 in the reorganization and administration of Piedmont; and on the establishment of the empire in 1804 he was made a marshal and a member of the Council of State. In 1806 he was nominated governor of Naples, and afterward accompanied King Joseph Napoleon to Spain as chief of his staff. Louis XVIII. made him a count in 1819. But his republican principles led him to enter heartily into the revolution of 1830. Died in Paris, Nov. 23, 1833.

Journalism, the gathering and distributing of news and opinion by the medium of newspapers. It has come to be one of the most important professions of civilized life. While eloquent and learned disquisitions have been spoken and written on the "power of the press," but few realize its immense influence or comprehend that the business, politics, social science and religion of the world are largely carried on through the newspapers.

The first printed newspaper was called "The Gazette," and was published in Nuremberg in 1457. No copy of this has been preserved. The oldest printed paper existing is the "Neue Zeitung aus Hispanien und Italien" (News from Spain and Italy), 1534, a copy of which is in the Nuremberg library. Thus Germany was first in the establishing of papers, as in the introduction of printing.

The growth of newspapers in the United States has surpassed that of any other part of the world. The first American paper was published in Boston, Sept. 25, 1690. It was

called "Publick Occurrences, both Foreign and Domestic," and consisted of three pages, two columns to a page, and one page blank. It was intended to be a monthly, but was suppressed on its first appearance. The Boston "News Letter," generally considered the first American paper, was commenced April 24, 1704, by John Campbell. It was a weekly, printed on a sheet of foolscap, sometimes on a half sheet, and existed 72 years, till the British troops evacuated Boston, 1776. Its circulation was 300. The oldest paper in New York, the "Commercial Advertiser," was founded by Noah Webster in 1793 under the name of the "Minerva." The first Western paper, called the "Sentinel of the Northwestern Territory," was founded by William Maxwell, in Cincinnati, 1793. The first successful commercial paper was the "New Orleans Prices Current," 1822. Since then all amusements, sciences, vocations and industries have had their own organs. None of the old style papers had a subscription list of over 5,000 and the prices were very high. The first cheap paper was started in 1832 by Horace Greeley, in connection with Horatio Shepard, but it did not prove a success. It was, however, speedily followed by others on the same line, such as the Baltimore "Sun," the New York "Herald" and the "Tribune," all of which reached a circulation of from 10,000 to 15,000. Of the leading New York newspapers the "Herald" was established in 1835 by James Gordon Bennett, the "Tribune" in 1841 by Horace Greeley, and the "Times" in 1851, by Henry J. Raymond. Most of the daily papers have eight pages, but the weeklies have from 20 to 40 pages, while the Sunday editions in the great cities often number 80 pages. Among the religious papers which have exerted a wide influence for good are the "Christian Herald," "Congregationalist," "Outlook," "Observer," "Christian Advocate," "Churchman," "Interior," "Advance," etc.

In 1837 reporters came into service and the sub-division and classification of editorial work began. In 1847 the Hoe press with its rapid work made a revolution in the press-room, and the following year the telegraph began to play an important part. In 1849

the New York Associated Press was formed. This was a combination of the leading papers of that city to facilitate the gathering of shipping news, and which has since been enlarged in its numbers and scope and has been followed by many similar combinations. In 1859 stereotyping of newspaper forms by the paper-matrix process was introduced and the Bullock circular press came into use. In 1860 trade papers first made their appearance, and the manufacture of paper out of wood-pulp and straw greatly reduced the cost of that heavy item of expense, and increased the circulation by lowering the price of newspapers.

The Civil War, 1861-1865, gave a new impetus to journalism. Correspondents were sent to the front to gain the latest news, and their letters were eagerly read. The papers, especially the weeklies, were profusely illustrated and from these sources more of history has been preserved than could have been done in any other way. In the last few years great progress has been made in journalism as in other things, and while the expense of running a newspaper has increased, the cost to its patrons has been lowered. The best dailies in the country sell for one or two cents, while the immense Sunday editions are but five cents. The American papers excel all others in their general makeup, attractive head lines, fine illustrations, spicy leaders and the variety and interest of their special articles. Women are largely employed on the staffs of many reputable journals, and have proved themselves as capable of filling even the most exacting assignments as men. Sensational, or "yellow," journalism as it is termed, while open to criticism, has its uses in calling attention to many needed reforms and awakening interest in public matters. Too great a license of the press works its own undoing, as has been seen in the downfall of certain editors and their publications. The Spanish-American War of 1898 called out the greatest possible enterprise and most lavish expenditure of money by our great daily papers. Dispatch boats were hired at an expense of from \$1,500 a day to \$8,000 and \$9,000 a month, some papers employing as many as from 5 to

10 craft of various kinds. Some of these followed closely the fleets at Manila and Santiago, and were under fire during the hottest of the battle. Their dispatches sent from the ships and from the battlefields during action were wonderful word-pictures of the most picturesque war ever waged. It cost from 50 to 80 cents a word to send press matter from St. Thomas or Jamaica, and from \$1.45 to \$1.80 a word for press cables from Hong Kong. A correspondent of a New York paper paid \$6,400 in American gold to get his description of the fight with Cervera to his paper. One editor had a weekly salary list, for war correspondents alone, of \$1,463, and a single correspondent of another leading journal was paid \$10,000 a year.

Joust, a tilting match; a mock combat or conflict of peace between knights in the Middle Ages, as a trial of valor.

Joyce, Robert Dwyer, an Irish poet; born in County Limerick, Ireland, in 1836. In 1866 he came to the United States. He was a versatile writer of ballads, songs, and sketches; and contributed to the "Pilot," etc. He died in Dublin, Oct. 23, 1883.

Juan de Fuca, or Fuca, Strait of, the strait between Vancouver Island and the State of Washington on the W. coast of North America.

Juan Fernandez, called also *Mas-a-tierra* ("nearer the mainland"), a rocky island in the Pacific Ocean, 420 miles W. of Valparaiso, Chile, to which it belongs. When Spain lost her South American colonies Juan Fernandez fell to Chile, which used it as a penal settlement, 1819-1835. It is usually inhabited by a few Chilean seal and sea-lion hunters; and in 1877 it was leased by the Chilean government to a Swiss, who established a small colony there.

Juarez, Benito, President of Mexico; born of Indian parents in Guetiao, Oaxaca, March 21, 1806. On the overthrow of the Liberal president by the clerical party in 1858 Juarez assumed the executive, but was compelled to retire to Vera Cruz, where his government was recognized by the United States in 1859. In January, 1861, he was able to enter the capital, and in March was elected

president for four years. In December of the same year the allied forces of England, France, and Spain occupied Vera Cruz; in April the British and Spanish withdrew, but the French remained, and declared war against Juarez, who retreated gradually to the N. frontier, and remained for nearly a year at El Paso del Norte. He entered Mexico city again in July, 1867. Maximilian having been shot meanwhile by order of court-martial, Juarez was again elected president and was holding his position with unwearied energy when he died in Mexico, July, 18, 1872.

Juba, the name of two kings of Mauritania and Numidia, important kingdoms of Northern Africa, prior to and after the fall of Carthage.

Jubilee, properly the trumpet or horn blown in a certain year, or the sound it made; now used more generally for the year itself. It occurred every 50th year. Seven was a sacred number, and it became yet more so if multiplied by itself (7×7), after which came the jubilee, but no historic description, in the Bible or elsewhere, of a jubilee actually kept in a particular year has descended to our times. Also a Roman Catholic feast first instituted in 1300 by Pope Boniface VIII., who proposed that it should be celebrated at the commencement of each succeeding century. Paul II. reduced the period to a quarter of a century, and since this time there has been no alteration. The term jubilee is also applied to a festival of rejoicing and congratulation, as when Queen Victoria completed her fiftieth year on the British throne.

Juch, Emma Johanna Antonia (Mrs. Francis L. Wellman), an American singer; born in Vienna, Austria, July 4, 1863; brought to the United States in infancy; received a normal school education; made her debut as an operatic singer at Her Majesty's Grand Italian Opera, London, in June, 1881; subsequently, organized the Emma Juch Grand English Opera Company which toured the United States.

Judaea, a term applied after the return of the Jews from exile to that part of Palestine bounded E. by the Jordan and the Dead Sea, N. by Sa-

maria, W. by the Mediterranean, and S. by Arabia Petrea.

Judaism, one of the most important faiths of the world, which Christians, as well as Jews, consider to have been revealed by God. Ancient Judaism was the precursor of Christianity and the germ from which it sprang; and Christians generally believe that all the ceremonies, sacred personages, etc. of the older economy were types of the life and sufferings of Jesus Christ. See JEWS.

Judas Iscariot, one of the 12 apostles and betrayer of his Master. For the paltry sum of about \$15 he engaged with the Jewish Sanhedrim to guide them to a place where they could seize his Lord by night without danger of a tumult. But when he learned the result, a terrible remorse took possession of him; not succeeding in undoing his fatal work with the priests, he cast down before them the price of blood, crossed the gloomy valley of Hinnom, and hanged himself (Matt. xxvii: 3-10); or fell headlong and burst asunder (Luke xxii.; Acts 1:18).

Judas, or Jude, brother of James, one of the 12 apostles. Matthew and Mark call him Thaddæus surnamed Lebbæus. Nothing is known of his life.

The General Epistle of Jude.—A short epistle thought by many to have been penned by Jude.

Judd, Sylvester, an American novelist and theologian; born in Westhampton, Mass., July 23, 1813; was graduated at Yale College in 1836; and was ordained in 1840. He died in Augusta, Me., Jan. 20, 1853.

Judenitch, General, a Russian military officer; born in 1860; became the right-hand man of Grand Duke Nicholas, Governor-General and Commander-in-Chief in the Caucasus, in the early part of the World War, and operated chiefly in the region of Sivas, the Turkish stronghold in Armenia, and in Erzingan, the scene of the massacres in 1895.

Judge, a legal officer. In ordinary language, a civil officer invested with power to hear and determine causes, civil or criminal, and to administer justice in courts held for that purpose; or a person authorized or em-

powered in any way to decide a dispute or quarrel.

The National and the State systems of judicature in the United States comprise in their list of officers judges of various degrees of dignity and of widely variant functions. In most of the States the most numerous class are the presiding officers of courts of oyer and terminer, hustings courts, criminal courts, courts of correction, etc., the names given similar tribunals in the different commonwealths varying. They have in most instances both criminal and (to a certain extent) civil jurisdiction, but in other cases are restricted entirely to one or the other function. Of a higher dignity than these are the circuit judges, who in some commonwealths have large supervisory and reviewing powers, while the whole system is presided over by the judges of the supreme State courts. The United States judges range in dignity from district to supreme court officials. Judges are intrusted with office in divers ways—some being elected by the people, others by the Legislature; and yet others are appointed by the President or by governors of the States.

Judge Advocate, at stations of the army, the officer through whom prosecutions before courts-martial are conducted. There is also a judge-advocate-general for the army at large; in the United States this is the title of the chief of the bureau of military justice at Washington.

Judges, Book of, the 7th book in order of the Old Testament. It was named Judges because at the period to which it refers Israel was ruled by men of that designation. It has always been accepted as canonical. In the New Testament it is referred to in Acts xiii: 20 and Heb. xi: 32.

Judgment, in law, a determination, decision, or sentence of a judge or court in any case, civil or criminal.

Judgment Day, in theology, the day on which God shall judge the world by the instrumentality of Jesus (Acts xvii: 31), meting out rewards and punishments as justice may require (Matt. xxv: 31-46). The fallen angels, as well as men, will be judged (Jude 6; Rom. xiv: 10; II Cor. v: 10). When 1,000 years from the birth of Christ were almost completed, it

was generally believed that the judgment day was at hand, and every means was adopted to conciliate the Church and gain the favor of its Divine Lord.

Judgment Debt, a debt secured to the creditor by court decree. It holds good, as a rule, for twenty years. If, however, a debtor chooses to go into bankruptcy, or is declared bankrupt against his will, the judgment debt has no preference over other debts.

Judiciary, that branch of the government which is concerned with the administration of justice.

National.—Article III. of the Federal Constitution provides for the establishment of United States courts to have jurisdiction both in law and in equity. This jurisdiction is in general distinct from, but is sometimes concurrent with, that of the State courts. The system which Congress adopted at its first session remains unaltered in its essentials to the present time, except for the addition of the Court of Claims. The judges are nominated by the President and confirmed by the Senate. They retain office during good behavior. The judicial power of the United States is vested in a Supreme Court, 9 Circuit Courts, 103 District Courts, and Courts of Claims. The Supreme Court has original jurisdiction only of "cases affecting ambassadors, other public ministers and consuls, and those in which a State shall be a party"; but cases decided in the other Federal courts, under certain prescribed conditions, can be reviewed by the Supreme Court by virtue of its appellate jurisdiction. The limits of the original jurisdictions of the District and Circuit Courts, and the appellate jurisdiction of the latter over the former, are provided by law. Besides other matters, the Circuit Court has exclusive jurisdiction of patent suits and the District Court of admiralty cases. The Courts of Claims have jurisdiction of claims against the United States. The justices of the Supreme Court, besides their functions as such, are each assigned to one of the circuits, being then known as Circuit Justices. There is also a separate circuit judge for each circuit, and a district judge for each district. Circuit Courts may be held by the

circuit justice, by the circuit judge or by the district judge sitting alone, or by any two of these sitting together. The judges of each circuit and the justice of the Supreme Court for the circuit constitute a Circuit Court of Appeals. As now constituted the Supreme Court consists of a chief-justice and eight associate justices. Besides these regular Federal courts, the Senate sits when necessary as a court of impeachment; the District of Columbia has a Supreme Court over which the Supreme Court of the United States has appellate jurisdiction and territorial courts are provided over which the Supreme Court has also appellate jurisdiction. Cases decided in the highest court of any State may also be reviewed by the United States Supreme Court, but only when Federal questions are involved.

State.—The judicial systems of the several States are too widely different to permit of explanation. In some of them courts of equity are distinct from those of law, while in others the same tribunals exercise both functions, and in still others all distinction between actions at law and suits in equity is abolished. The manner of selecting judges also varies in different States. At the period of the formation of the United States the election of judges by the people was unknown, except in Georgia. At the present time, however, the people elect judges in 24 of the States. Judicial terms vary from two years to age of retirement.

Judith, the 4th of the apocryphal books. The narrative opens with the "twelfth year in the reign of Nabuchodonosor, who reigned in Nineveh, the great city." That potentate, finding his armies thwarted in their progress to the W. resolved to take signal vengeance. His chief opponents were the Israelites, who fortified themselves in Bethulia. While Holofernes, his general, was besieging this stronghold, the heroine of the book, Judith, the beautiful widow of Manasses, went forth to the Assyrians, pretending that she had deserted her people. She fascinated Holofernes, who after a time took her to his tent, where, as he was lying drunk, she cut off his head, escaping back with it to the fort at Bethulia. On the loss of their leader the

Assyrians fled, the Israelites pursuing and inflicting on them great slaughter.

Judson, Adoniram, an American missionary; born in Malden, Mass., Aug. 9, 1788; was graduated at Brown University in 1807 and studied theology at the Andover Theological Seminary. In April, 1810, he made application to the London Missionary Society to go to "India, Tartary, or any part of the Eastern continent." The offer of his services was favorably received and in February, 1812, he sailed with his wife for Asia. During the voyage he was converted from the Congregational faith to that of the Baptist Church. In 1814, when the Baptists of the United States organized a missionary union he was taken under its care. He settled in Burma; mastered the language; and labored there for nearly 40 years. D. 1850.

Judson, Edward, an American clergyman; born in Moulmein, Burma, Dec. 27, 1844; son of Adoniram Judson; came to the United States in 1850; and in 1881 took charge of the Berean Baptist Church of New York city, where he built the Judson Memorial Church; was also Professor of Pastoral Theology at Colgate University. He died Oct. 23, 1914.

Judson, Emily Chubbuck, (Fanny Forrester), an American missionary and writer; born in Eaton, N. Y., Aug. 22, 1817; married Adoniram Judson in 1846; died June 1, 1854.

Judson, Harry Pratt, an American educator; born in Jamestown, N. Y., Dec. 20, 1849; became head Professor of Political Science in the University of Chicago in 1892; president of the university, 1907-23, then engaged in travel and research. D. 1927.

Juggernaut, in Hindu mythology, one of the 1,000 names of Vishnu, the second god of the Hindu triad. Juggernaut is Vishnu, especially in his 8th incarnation, Krishna. The great seat of his worship is at Puri, in Orissa, where he is associated with his brother and their sister. The idols are wooden busts about 6 feet high. Balaram is painted white, Juggernaut black, and Sabhadra yellow. Juggernaut's car is 43½ feet high. It has 16 wheels, each 6½ feet in diameter. There are 13 festivals each year. The chief is the **Rath Jatra**, or Car Festival, at which

the three idols are brought forth, being dragged out in their cars by the multitudes of devotees. Formerly a few fanatics threw themselves beneath the wheels; this is not now permitted.

Jugurtha, King of Numidia, son of Mastanabal, who was a natural son of Masinissa. By murder and trickery he obtained the throne, but was finally delivered up to the Romans, and was carried in the triumph of Marius, Jan. 1, 104 B. C., and then hung into a dungeon to die of hunger.

Jujuy, the extreme N. province of the Argentine Republic; a mountainous tract, bounded on the W. and N. by Bolivia; area, 14,802 square miles; pop. (1915) 73,062. Capital, Jujuy, on the San Francisco river.

Julian, or **Julianus**, **Flavius Claudius**, surnamed The Apostate, Roman emperor; born in Constantinople, probably Nov. 17, 331 A. D. He was the youngest son of Constantine the Great, and was educated in the tenets of Christianity, but apostatized to paganism. In 354 he was declared Cæsar, and sent to Gaul, where he obtained several victories over the Germans; and, in 361, the troops in Gaul revolted from Constantius and declared for Julian. He took from the Christian churches their riches, which were often very great, and divided them among his soldiers. He sought likewise to induce the Christians, by flattery or by favor, to embrace paganism. His malice was further evinced by extraordinary indulgence to the Jews, and an attempt to rebuild the temple at Jerusalem, that the prophecy of Christ might be falsified; but the design was frustrated. He did not long survive his disappointment, being killed in 363 in his expedition against the Persians.

Julian Epoch, the epoch or commencement of the Julian calendar. The first Julian year began with Jan. 1, 46 B. C., and the 708th from the year assigned to the foundation of Rome.

Julien, Louis Antoine, a French composer and director; born in Sisteron, Basses Alpes, France, April 23, 1812. He studied at Paris, and became a conductor of concerts there; leaving there he made London his headquarters, and did much to pop-

ularize music in England by means of large bands. He visited the United States in 1852-1854; returned to Paris, where he was imprisoned for debt, and died in a lunatic asylum near Paris, March 14, 1860.

July, the name of the 7th month of the year. It formed the 5th month of the old Roman year, and was called Quintilis by the Romans; but shortly after the calendar had been rearranged by Julius Cæsar, the name Julius was given to this month by Mark Antony, in honor of Cæsar.

July Revolution, the rising in Paris, in 1830, which overthrew the Bourbons, and brought Louis Philippe to the throne.

Jumping Hare, a species of jerboa found in Southern Africa, and so named from its general resemblance to a hare, while its jumping mode of progression, necessitated by the elongated nature of the hind legs, has procured for it its name.

Jumping Mouse, found in Labrador and North America generally, but especially an inhabitant of the fur territories.

June, the 6th month of the year in our calendar, but the 4th among the Romans. It consisted originally of 29 days, to which four were added by Romulus, one taken away by Numa, and the month again lengthened to 30 by Julius Cæsar, since whose time no variation has taken place.

Juneau, capital and shipping port in Alaska; on a promontory between Linn Channel and the Taku river, opposite Douglas Island, and about 55 miles N. E. of Sitka. P. (1920) 3,058.

June Berry, a North American wild tree common in the United States, and allied to the medlar. The fruit is pear-shaped, about the size of a large pea, purplish in color, and a good article of food.

Jungaria, Dzungaria, or Sun-garia, a country of Central Asia, forming part of the Chinese empire; area 147,950 square miles; pop. 600,000. It is an elevated and almost desert plateau between the Altai and Thian-Shan Mountains, and is intersected by subordinate ranges. Between the mountains are several fertile valleys watered by numerous lakes and cultivated by nomadic tribes. The

country was originally inhabited by the Oo-Sun, distinguished from neighboring nations by their blue eyes and red beards. They were expelled by the Turks in the 6th century and became subject to the Mongols. In 1754 the country was conquered by China, and has since been administered as a province of that empire, though a portion is claimed also by Russia.

Jungfrau ("The Maiden"), a magnificent peak of the Bernese Alps; height 13,671 feet.

Jungle, a term adopted into the English literature from Bengal (Sanskrit Jangala, "desert") and employed to designate those thickets of trees, shrubs, and reeds which abound in many parts of India. They are generally almost impenetrable.

Jungle Cat, a wild cat, found in India and Africa.

Jungle Fever, remittent fever, which is apt to attack Europeans and others who pass through East Indian jungles during the rainy season; called also hill fever.

Jungle Fowl, the name given in India to the wild species which is the parent of our domestic fowl, and to three other closely allied species.

Juniata River, a stream in Pennsylvania, formed near the center of the State by the junction of the Little Juniata and Frankstown branch, flowing in a generally E. course and emptying into the Susquehanna 14 miles above Harrisburg. It is about 150 miles long, and though not navigable is noted for its picturesque scenery. Beside it are the Pennsylvania canal and railroad, the latter crossing the stream many times.

Juniperus, a genus of plants. The common juniper is a bushy shrub with evergreen sharp-pointed leaves. It grows in fertile or in barren soils, on hills or in valleys, on open sandy plains, or in moist and close woods. All parts of the plant, when bruised, exhale a more or less agreeable odor. The fruits and young tops are used in medicine. The fruits or berries are used to flavor gin. Juniper wood has a reddish color.

Junius, the unknown writer of a series of famous critical letters on British politics, which appeared between 1769-72.

Junker, Wilhelm, a German traveler; born of German parents in Moscow, Russia, April 6, 1840. He made a series of explorations among the W. tributaries of the Upper Nile; died in St. Petersburg, Russia, Feb. 13, 1892.

Junketing, any trip, excursion, or entertainment participated in by an official at public expense under the guise of public service; popularly called a "junket." The investigating tours of Congressional and Legislative Committees, which involve large railroad and hotel bills, are frequently given this name.

Juno, in Roman mythology, a celebrated deity, identified with the Hera of the Greeks, and generally regarded as the daughter of Saturn and Rhea, and sister and wife of Jupiter.

Junta, in Spain, a high council of state; originally applied to an irregularly summoned assembly of the states, as distinguished from the Cortes or Parliament regularly called together. When the Spanish-American colonies fought for independence they called their governing bodies "juntas." In Cuba the term was adopted by the insurgents to designate the general legation of the Cuban republic abroad, and was first appointed Sept. 19, 1895, by the Constituent Assembly that formed the insurgent Cuban government.

Jupati Palm, a fine Brazilian palm. The leaf-stalks, which are 12 to 15 feet long, are used for building houses and making baskets.

Jupiter, in Roman mythology, the supreme Roman deity, identified with the Greek Zeus.

In astronomy, the largest planet of the solar system. Its diameter at the equator is nearly 90,000 miles, and the distance from pole to pole is over 84,000 miles. Its bulk is 1,300 times that of the earth, but its density is only one-fourth that of the earth. The average distance of Jupiter from the sun is 483,000,000 miles; and a railway train traveling 50 miles an hour, would require nine centuries to go from the sun to Jupiter. The latter body revolves on its axis in about 9 hours and 55 minutes. Though traveling in its orbit round the sun at the rate of 28,743 miles an hour, it takes

nearly 12 years to complete its revolution. It is surrounded by four conspicuous belts of a brownish-gray color, two N., two S. of the equator, with feebler ones toward the poles.



THE PLANET JUPITER.

Jupiter has eight satellites, four of which were discovered in 1610, by Galileo, and the others by Barnard, Perrine, and Melotte.

Jura, a department of France, bordering on Switzerland; area 1,951 square miles; pop. (1920) 229,062. A large part is covered by the Jura Mountains, in which some considerable rivers sink into the ground and reappear after some distance. The Jura Mountains give their name to the geological Jurassic System.

Jurisdiction, in ordinary language and law: (1) The legal power, right or authority of administering justice; the legal power which a court of equity has of deciding cases brought and tried before it; the legal right by which judges exercise their authority; judicial authority over a cause. (2) The power or right of governing or legislating; the power or right of exercising authority, or of making and enforcing laws. (3) The extent to which such authority extends; the district within which such power may be exercised. Appellate jurisdiction, jurisdiction in cases of appeal from inferior courts. Original jurisdiction, the legal

right of hearing and determining a case in the first instance.

Jury, a number of men selected according to law, impaneled, and sworn to inquire into and to decide on facts, and to give their true verdict according to the evidence legally laid before them. In courts of justice there are three kinds of juries, grand juries, special juries, and petit or common juries. Petit or common juries and special juries consist of 12 men each, and the verdicts given must be unanimous. They are appointed both in civil and criminal cases.

Jury Mast, a temporary mast.

Jusserand, Jean Adrien Antoine Jules, a French diplomat; born in Lyons, Feb. 18, 1855; entered the diplomatic service in 1876; was Minister to Denmark in 1898-1902; and Ambassador to the United States since 1902. In his diplomatic career he found time for much historical research and authorship, and published "The English Novel in the Time of Shakespeare"; "English Wayfaring Life"; "The English Theatre"; "A Literary History of the English People"; "Our First Alliance" (1917), etc. Retired, Jan., 1925.

Just, St., Louis Antoine de, a French author and revolutionist; born near Nevers, France, Aug. 25, 1767. He became associated with Robespierre and shared in the hideous and indiscriminate bloodshed which marked the decrees of the Convention in the latter part of 1793, and beginning of 1794. After the dawn of a reaction in popular feeling, and the final absorption of power by the moderate Republican party, St. Just was seized, with his colleague Robespierre and guillotined, July 27, 1794.

Justice, Department of, an executive branch of the United States government. At its head is the attorney-general, whose office goes back, historically, to the foundation of the government, though the Department of Justice dates only from 1870. The attorney-general is appointed by the President and must be confirmed by the Senate. He is a member of the cabinet and his salary is \$15,000 a year. The establishment of this department brought under his control all United States district attorneys and marshals,

and secured uniformity in the trial and prosecution of cases.

Justice, High Court of, one of the two great sections of the English supreme courts.

Justice, Lord Chief, the title given to the chief judge of the King's Bench Division of the High Court of Justice; formerly given also to the chief judge of the Common Pleas. He of the King's Bench is Lord Chief-justice of England.

Justice of the Peace, a public officer invested with judicial powers for the purpose of preventing breaches of the peace, and bringing to punishment those who have violated the law. These officers, under the Constitution of the United States, and some of the States, are appointed by the executive; in others they are elected by the people and commissioned by the executive. In some States they hold their office during good behavior; in others, for a limited period. In some of the United States, justices of the peace have jurisdiction in civil cases given to them by local regulations.

Justifiable Homicide, in law, homicide in circumstances which render it a justifiable act. When no other way of preventing an atrocious crime, say murder, is available, the deed ceases to be murder and becomes justifiable homicide.

Justinian I. (Flavius Anicius Justinianus), a Byzantine emperor; born in Tauresium, Dardania, Illyricum, probably May 11, 483. He succeeded his uncle Justin I. in 527. He had married Theodora, a well-known actress, who was created Augusta, and crowned the same day as her husband. The glory of his reign is the famous Justinian Code. He died Nov. 14, 565.

Justinian Code, a famous digest of the Roman law, compiled from the Gregorian, Theodorian, and Hermogenian codes, at the command of the Emperor Justinian I., by 10 of the ablest lawyers of his reign, under the guidance of the jurisconsult Tribonian. Their labors consisted (1) of the "Statute Law," or Justinian Code, properly so called; (2) the "Pandepts," a digest of the decisions and opinions of former magistrates and lawyers; (3) the "Institutes," an

abridgment in four books, containing the substance of all the laws in an elementary form; (4) the laws of modern date, including Justinian's own edicts, collected into one volume, and called the "New Code."

Jute, a textile fabric obtained from a plant belonging to the natural order Tiliaceæ (lime or linden). The jute plant is a native of the warmer parts of India, where its cultivation is carried on, especially in Bengal, on an extensive scale. It is an annual plant, growing to a height of 12 or 14 feet. The fiber forms the inner bark of the plant, and possesses in an eminent degree the tenacity common to the bark of the plants of this order. In Bengal, jute has been cultivated and its fibers woven into various fabrics from a remote period, but it is only since about 1830 that its manufacture has risen to importance among Western nations. Jute serves many useful purposes, being mixed with hemp for cordage, and with silk in the manufacture of cheap satins; its principal use is in the manufacture of coarse cloth for bagging, and in making the foundation of inferior carpets, mats, etc.

Jutiapa, a department of Guatemala, bounded on the N. by Jalapa and Chiquimula, on the S. by the Pacific Ocean; on the S. E. by Salvador, on the W. by Santa Roso; area, 1,563 square miles; pop. 52,856. Capital, Jutiapa.

Jutland, a division of Denmark, formerly comprising the whole continental portion of the Danish dominion, but now restricted to the part of the peninsula belonging to Denmark to the N. of Schleswig, about 170 miles in length, and from 60 to 80 in breadth; area, 9,898 square miles: pop. (1921) 1,498,479. A remarkable feature is a series of inland water-basins known as the Liimfiord, extending from the North Sea to the Kattegat, and finding their chief outlet near Aalborg. The outlet towards the North Sea is sometimes sanded up altogether. The highest point of Jutland is the Himmeljberg, 550 feet above sea-level.

Great part of the peninsula is sandy and barren; in the south and east are some low alluvial tracts rich in verdure.

In the World War, what has been called the greatest naval battle in history was fought off the Jutland Bank, May 31-June 1, 1916, between the Grand British and the German High Sea Fleets, with heavy loss of lives and battleships. Both sides claimed victory, but on the second day the German ships withdrew to their Kiel base.

Juvenal (Decimus Junius Juvenalis), Latin satirical poet; born probably about the year 42 A. D. at Aquinum, a Volscian town. He is said to have been the adopted child of a wealthy freedman; to have been by profession a pleader; to have been the friend of Martial; and to have died in Egypt as an exile in charge of a cohort of infantry. Nothing of this is authentic; we only know certainly that he resided in Aquinum, and flourished about the end of the first century after Christ. His extant works are sixteen satires, composed in hexameters, and giving in powerful language, inspired by a bitter and heartfelt indignation, a somber picture of the corrupt Roman society of that era. His satires have been translated by Gifford, and some of them by Dryden, while Johnson's imitations (under the titles "London," and the "Vanity of Human Wishes") are well known.

Juvenile Court, a special tribunal for hearing and determining criminal charges against children, first established in Denver, Col., by Judge Benjamin B. Lindsey in 1901, and since adopted in most large cities. The object is to save juvenile offenders at the outset of criminal careers, and the presiding judge is at once the prosecutor, defendant's attorney, judge, and jury—in fact, a big father in time of greatest need to the unfortunate children brought before him. These courts make large use of the parole system, and have accomplished incalculable benefits.

K

K, the 11th letter of the English alphabet, representing a guttural articulation.

Kaaba. See CAABA.

Kabul, capital of Afghanistan; 165 miles from the Indian station and fort of Peshawar, 600 from Herat, and 290 from Kandahar; on the Kabul River, at an elevation of 6,400 feet above sea-level. It carries on considerable trade with Hindustan through Khyber Pass. Pop. 180,000.

Kabul River, a stream rising in Afghanistan at the height of about 8,400 feet, flowing E., passing through the Khyber Pass into India, and falling into the Indus at Attock. Length, 300 miles.

Kadesh, Kadesh-Barnea, or Enmishpat, the name of a fountain, city, and the desert around in the S. border of the Promised Land. It was probably situated beyond the great valley El-Arabah, S. of the Dead Sea. Kadesh was twice visited by the Israelites in their wanderings—once soon after they left Mount Sinai, and again 38 years after.

Kadiak, an island off the S. coast of Alaska, separated from the mainland by Alaska Strait; area, 3,465 square miles; pop. about 1,500.

Kadijah, the first wife of Mohammed, who, at the period of her marriage with the prophet, was the widow of two husbands and 40 years of age, Mohammed being only 25. She had four sons and four daughters by Mohammed, among the last the beautiful Fatima. She died in 628.

Kaffirs, a native race of Southern Africa, belonging to the great Bantu family, of negroid character, but distinguished from the Negroes by a larger facial angle, a high nose, hair

frizzled, but less woolly than that of the Negroes, and a brown or iron-gray complexion, differing from the shining black of that race. The Kaffirs are a tall, handsome, vigorous race, of simple habits, their principal food being milk in the form of curd. Their dress used to be entirely made of skins, but latterly they have begun to substitute various European articles. Their dwellings are low, circular cabins, grouped in kraals, or villages, and are constructed by the women. Plurality of wives is general. Cattle are of the first importance. The ground is cultivated by the women. At the age of 12 the boys are appointed to the care of cattle, and exercised publicly in the use of the javelin and the club. The girls, under the inspection of the chiefs' wives, are taught to perform the work of the hut and the garden. Their weapons are the assagai or spear, the shield, and the club. Each horde or tribe has a hereditary and absolute chief. Various Christian missions have met with considerable success among them. The continued encroachments of the British have repeatedly led them to engage in open hostilities, and they have proved formidable opponents to both the Dutch and British. From 1846 to 1853, there were almost constant hostilities. Peace was maintained with all the tribes from 1853 to 1879, when a war with the Zulus N. of Natal broke out, in which the British, though ultimately successful, sustained a severe disaster.

Kaffraria, a name adopted by the Portuguese from the Arabs, who call all the African continent S. from Sofala, the land of kaffirs (infidels). The district for some time called British Kaffraria was formerly part of the territory of the Amaxosa and Ama-

tembra Kaffirs. In 1860 it was erected into a separate colony, and in 1865 was incorporated with Cape Colony, and the name has fallen out of use.

Kafiristan, Kaffiristan, or Kaf-fristan, a country of Central Asia; area, about 5,000 square miles; pop. est. about 200,000. It forms a part of Afghanistan, though the tribes are generally independent.

Kai-fung, capital of the Chinese province of Honan, near the S. bank of the Hoangho, where the great inundation occurred in 1887, long the chief settlement of the Jews in China.

Kail, or **Kale**, differs from the cabbage in the open heads of its leaves, which are used as "greens" and as food for cattle.

Kai-ping, the coal region in Chih-li, China; 75 miles N. E. of Tien-tsin, near the Lan-ho river.

Kairwan, a walled town of Tunis, in an open, marshy plain, 80 miles S. of the capital. It contains the mosque of Okba, who founded Kairwan about 670, which is one of the most sacred of Islam. Outside the city, to the N. W., is the mosque of the Companion (the Prophet); this and other sacred tombs have rendered Kairwan the Mecca or sacred city of Northern Africa. As such it is jealously guarded from defilement by the presence of Jews and Christian travelers.

Kaiser. The Emperor of Germany was called Kaiser because certain provinces near the Danube, which came into possession of the German empire in 1438, were anciently assigned to a Caesar. This ancient title was revived when, in 1871, King William III. of Prussia was proclaimed German emperor.

Kaiser Wilhelm's Land, the N. section of Southeastern New Guinea; declared a German protectorate in 1884. Conquered by Australian forces, 1914. Pop. 360,000.

Kajak, the boat of the Eskimos, used by the men only; about 18 feet in length, it is 18 inches broad in the middle, and, tapering at both ends, is about a foot deep; it is covered with skins and closed at the top; with the exception of a hole in the middle, filled by the boatman, who, sitting on the floor of the boat, propels it with a paddle.

Kakabikka, a remarkable cataract of British North America, in the Kamanatekwoya river, just before it enters Lake Superior. It has a fall of 130 feet.

Kakapao, or **Kakapo**, a bird of the parrot family though it is in many respects of a unique type. It is indigenous to New Zealand. Its habits are wholly nocturnal, hiding by day, seeking food only by night. It is fast becoming extinct.

Kalafat, a town in Rumania, on the bank of the Danube. During the Russo-Turkish War of 1853-1854 it was twice unsuccessfully attacked by the Russians.

Kalahari, or **Kalihari**, a desert region in Central South Africa, N. of the Orange river; a large tract of which is included in the British protectorate of Bechuanaland. It is very flat, subject to long-continued droughts, and has only dried-up river beds; nevertheless it is not devoid of vegetation. An abundant supply of watermelons and some remarkable varieties of tubers, together with large herds of antelopes and other game, provide ample subsistence to the natives.

Kalakaua I., David, King of Hawaii; born Nov. 16, 1836. He was elected Feb. 12, 1874, to succeed Lunailo, and reigned till his death. In 1887 he was compelled to grant a new constitution which restricted to a considerable extent the royal authority. He died in San Francisco, Cal., Jan. 30, 1891.

Kalamazoo, city and capital of Kalamazoo county, Mich.; on the Kalamazoo river and the Mich. Central and other railroads; 68 miles W. of Jackson; is the largest celery market in the world; has over 190 manufacturing plants with annual output of \$17,904,000 in value; is the seat of Kalamazoo College (Bapt.) Western State Normal School, State Insane Asylum, Borgess and Queen City hospitals, Children's, Erring Girls', Feeble-Minded Children's, and Industrial School homes. Pop. (1930) 54,786.

Kalapooian, a division of the North American Indians, embracing tribes who formerly occupied the valleys of the Willamette, Oregon.

Kalee, or **Kali**, in Hindu mythology, the secti or consort of Siva in the

form of Kala. She is represented with four arms, one holding a sword, the second a trident, the third a club, and the fourth a shield. A dead body hangs from each of her ears; human skulls strung together form her necklace; and the hands of slaughtered giants interlaced with each other compose her girdle. Her eyebrows are matted and stained with the gore of monsters whom she has just torn to pieces and devoured. She is exceedingly pleased when her altars are inundated with human blood. The thugs selected her as their tutelary deity.

Kaleidoscope, an instrument which, by means of reflection, enables us to behold an endless variety of beautiful forms of perfect symmetry.

Kaler, James Otis, pseudonym James Otis, an American journalist; born in Winterport, Me., March 19, 1848. He published tales for the young. He died Dec. 11, 1912.

Kalevipoeg, ("The Son of Kalev"), the national poem of the Estonians, consisting of 20 cantos of popular songs collected into a continuous epic by Kreutzwald.

Kalgan, a Chinese town, 110 miles N. W. of Peking, built opposite the passage through the Great Wall; one of the chief emporiums of the Chinese tea trade with Mongolia and Siberia, about 21,500,000 pounds being exported annually. Pop. 63,000.

Kalisz, an old and handsome city in Poland, on the Russian border, whose antiquity is indicated by an abundance of objects of ancient art and coins, which have been discovered on the site, as well as by numerous burial mounds found in the vicinity. Here Augustus the Strong of Poland defeated the Swedes in 1706; here lesser conflicts took place in 1813; and here Russian and Prussian troops met in fraternal spirit in 1835. Pop. 44,753.

Kalki, in Hindu mythology, the 10th avatar (incarnation) of Vishnu. Nine are believed to be past; this one is future, and many Hindus look forward to it as Christians do to the Second Advent of our Lord. When Vishnu descends on earth in the form of Kalki he will destroy all the Mlecchas (barbarians), and the wicked gen-

erally, and establish a reign of righteousness on earth.

Kalmucks, a Mongolian race of people, scattered throughout Central Asia, and extending W. into Southern Russia. The name is not employed by the people themselves. Long ago a part of this people is said to have made an expedition to the W. as far as Asia Minor, and to have lost themselves there among the Caucasus mountains; while the rest, who had remained in Great Tartary, received from their Tartar neighbors the name of Khalimik (the separated). They are a nomadic, predatory, and warlike race, and though hospitable, are much given to deceit and thieving. In religion they are nearly all adherents of Lamaism. Their language differs from true Mongolian only in being more phonetic. From 1670 to 1724 the Kalmucks figured as an important factor in Russian politics, sometimes as enemies, sometimes as allies. In 1771 a large body of them being dissatisfied with the treatment they received at the hands of Russia, returned to China. There still remain about 110,000 Kalmucks in European Russia; in Asiatic Russia there are probably 55,000 more. The number within the Chinese empire is not known.

Kamakura, a seacoast village of Japan, 12 miles E. of Yokohama; formerly a noted city, founded before 1199, and the seat of the early shoguns.

Kambalu, Kambaluc, or Cambaluc, the capital of China and the residence of the Mongol emperors 1234-1368. It partially corresponded with the part now called the "Tartar City" in Peking. It was visited by Marco Polo, etc., in the 13th century.

Kamchatka, a peninsular province of Russia in Eastern Siberia, stretching S. into the Pacific between the Bering and Okhotsk Seas; area 502,424 square miles; pop. (1914) 40,500. The peninsula is long and narrow, swelling out toward the middle, and terminating in a point only seven miles distant from the northernmost of the Kurile Islands. A chain of volcanic mountains runs down the center. The coast on the S. E. is formed of rugged, precipitous cliffs. Grass and tree vegetation are luxuriant. The principal occupations of the inhabi-

Kamehameha

stants are fishing and hunting. Kamchatka was annexed to Russia at the end of the 17th century. The Kamchadales—the preponderating race (4,000 in number)—live mostly in the S. They are a hardy people, who dwell in winter in earth pits and in summer in light huts. The fort of Petropavlosk (pop. 350), with a magnificent harbor that is covered with ice only during a brief period of the year, is situated on the E. coast.

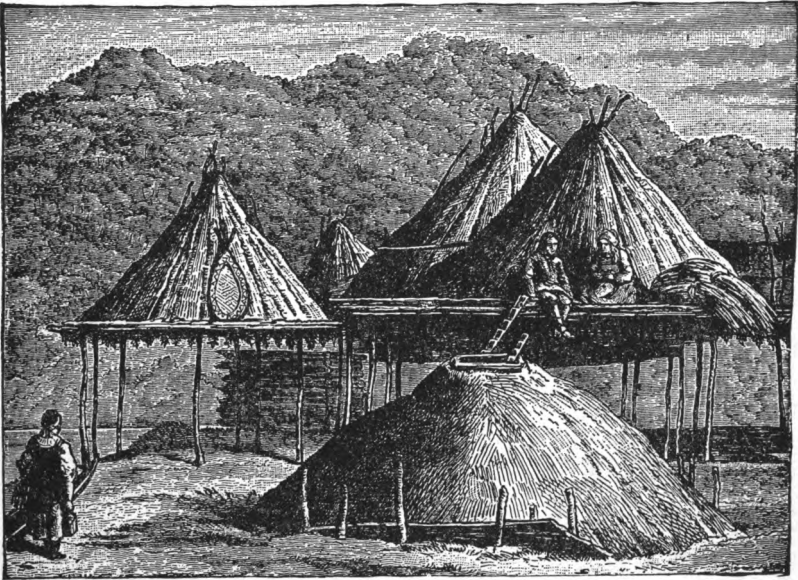
Kamehameha I., surnamed The Great; King of the Sandwich Islands; born in 1753. He subdued and gov-

Kamerun

Kamehameha III., King of the Sandwich Islands (1824–1854), brother of Kamehameha II.; born March 7, 1814. He introduced a constitutional form of government in 1840. Died in Honolulu, Dec. 15, 1854.

Kamehameha IV., King of the Sandwich Islands, nephew of Kamehameha III.; born Feb. 9, 1834. He succeeded his uncle in 1854, and died in Honolulu, Nov. 30, 1863.

Kamehameha V., King of the Sandwich Islands, brother of Kamehameha IV.; born Dec. 11, 1830. He



SUMMER AND WINTER HUTS OF KAMCHATKA NATIVES.

erned the whole group of the Sandwich Islands, having been first made King of Hawaii in 1781. He died in Kailua, Hawaii, May 8, 1819.

Kamehameha II., King of the Sandwich Islands (1819–1824), son of Kamehameha I.; born in Hawaii in 1797. He permitted the establishment of an American Protestant mission in 1820. He died in London, July 14, 1824.

succeeded his brother in 1863, and proclaimed a new constitution in 1864. He died in Honolulu, Dec. 11, 1872.

Kamerun, (1) a district on the W. coast of Africa, on the Bight of Biafra, belonging to England (1916). (2) A river in the Kamerun territory. It falls into a broad estuary, on approaching which it has a width of about 400 yards. (3) A mountain range in the territory, the highest peak

of which has been estimated at over 13,000 feet. The Kamerun territory was annexed by Germany and constituted a protectorate in 1884, and was conquered by the Entente Allies in February, 1916.

Kami, in Japanese mythology, the name of certain spirits or divinities, the belief in which seems to have characterized the ancient religion of that country before it became intermingled with foreign doctrines, and still constitutes its basis. The kami are believed to be partly elemental, subordinate to the deities of the sun and moon, and partly the spirits of men. The spirits of human beings survive the body, and, according to the individual in life, receive reward or punishment.

Kanagawa, a seaport of Japan, on the W. shore of Tokyo Bay, the first Japanese port opened to foreign trade in 1859.

Kanakas, the native inhabitants of the Sandwich Islands.

Kandahar, or **Candahar**, the capital of Central or Southern Afghanistan; about 200 miles S. W. of Kabul; 3,484 feet above sea-level. It has been a pivot for the history of that part of Asia during more than 2,000 years. It is supposed to have been founded by Alexander the Great. In the war of 1878-1880 the British entered Kandahar unopposed, and they held the city till 1881, some months after they had evacuated the rest of Afghanistan. Pop. variously estimated at from 25,000 to 35,000.

Kane, Elisha Kent, an American explorer; born in Philadelphia, Pa., Feb. 3, 1820; was graduated at the Medical Department of the University of Pennsylvania in 1842; joined the United States navy as assistant surgeon in 1843; accompanied the Grinnell expedition in search of Sir John Franklin in 1850-1852. His fame as an Arctic explorer rests on his second expedition in search of Franklin in 1853-1855. He sailed from New York on May 30, in the former year, in the brig "Advance," and reached lat. 78° 43' N., the highest point ever attained up to that time by a sailing vessel. The hardships endured during this second trip so affected his health that he died in Havana, Cuba, where

he had gone to recuperate, Feb. 16, 1857.

Kangaroo, an animal of Australia, first observed by a party of sailors on the coast of New South Wales. The great kangaroo has large hind legs, with a huge tail, short fore limbs, and is about the height of a man. It is a vegetable feeder, and is



KANGAROO.

destructive to the crops of the settlers in the less inhabited parts of Australia; in the long-settled districts it is much rarer. Its ordinary method of progression is by a series of great leaps, 10 to 15 feet or more. Many species are known to exist.

Kangaroo Grass, the most esteemed fodder grass of Australia. It affords abundant herbage, and is much relished by cattle.

Kano, capital of a province of the same name (called the "Garden of Central Africa"; pop. est. 500,000), in the Negro State of Sokoto, Central Africa; in the middle of the country. The wall surrounding Kano is 15 miles in circuit. Pop. about 50,000.

Kansas, a State in the North Central Division of the North American Union; bounded by Nebraska, Missouri, Indian Territory, Oklahoma, and Colorado; area, 82,158 sq. mi.; admitted to the union Jan. 29, 1861; number of counties, 105; pop. (1930) 1,880,999; capital, Topeka.

The State has a generally flat or undulating surface. Its altitude above the sea ranges from 750 feet at the mouth of the Kansas river to 4,000 feet on the W. line of the State. The rivers flow through bottom-lands, varying from $\frac{1}{4}$ to 6 miles in width, and bounded by bluffs rising from 50 to 300 feet. The Missouri river forms nearly 75 miles of the State's N. E. boundary. The Kansas river, formed by the junction of the Smoky Hill and Republican rivers, joins the Missouri at Kansas City, after a course of 150 miles across the State. The Arkansas, rising in Colorado, flows with a tortuous course, for nearly 500 miles, across three-fourths of the State. It forms, with its tributaries, the Little Arkansas, Walnut, Cow Creek, Cimarron, Verdigris, and Neosho, the S. drainage system of the State. Other important rivers are the Saline and Solomon, tributaries of the Smoky Hill; the Big Blue, Delaware, and Wakarusa, flowing into the Kansas; and the Osage, a tributary of the Missouri.

The minerals of Kansas are lead and zinc, obtainable from the Sub-Carboniferous; bituminous coal, petroleum and gas, from the Carboniferous; salt and gypsum from the Permian and Triassic; chalk and lignite from the Cretaceous; lignite and silica in an exceedingly fine state from the Tertiary.

The entire mineral output in 1928 was valued at \$113,280,000, zinc leading with \$14,280,000 followed by natural gas, \$13,693,200; cement, \$10,784,000; coal, \$3,809,120, and clay products, over \$3,000,000.

The soil is exceptionally rich in those mineral substances necessary to support vegetation, and is consequently very fertile. In the E. it consists of a black sandy loam with a vegetable mold, and in the W. it is of a lighter color but greater depth. The bottom-lands have a soil from 2 to 10 feet in depth, and the hills, from 1 to 3 feet. Only a small portion of the State is wooded. The excellent soil of Kansas makes it one of the foremost agricultural States. In 1925 the value of all farm property was reported at \$2,504,340,000 and, during 1929, 67 farm crops yielded \$304,700,000, to which wheat contributed \$138,053,000 and corn \$79,033,000 and live stock had a

value of \$195,100,000. In 1925 there were 165,879 farms totaling 43,729,000 acres valued at \$1,833,379,000.

The assessed valuation of property in 1927 was \$3,674,000,000; amount of levy, \$69,331,000; net State debt, \$24,949,000; State revenue, \$27,087,000; expenditures, \$15,911,000; bonded debt, \$26,500,000.

The manufacturing industry in 1927 was represented by 1,767 plants, employing 45,368 wage-earners, paying \$59,925,000 in wages, \$518,141,000 for materials, supplies, fuel and power, and having an output valued at \$681,570,000.

In 1928, the school census showed 425,424 pupils enrolled in public and private elementary and secondary schools; 19,141 teachers; 723 public and private high schools and academies with 90,373 pupils enrolled under 5,329 teachers; for higher education, 35 universities, colleges and professional schools with 18,536 students under 1,288 professors and instructors.

In 1927-28, 1,785 miles of State highway were constructed of which 746 miles were surfaced; the total cost being \$35,143,000. As of Dec. 31, 1929, 339 miles of highway were under construction with Federal aid.

The governor is elected for a term of two years, and receives a salary of \$5,000 per annum and his residence. Legislative sessions are held biennially and are limited to 40 days each. The Legislature has 40 members in the Senate and 125 members in the House, each of whom receives \$3 per day and mileage. There are 8 Representatives in Congress.

Kansas was included in the Louisiana Purchase of 1803, and is believed to have been visited by an army of Spaniards and Indians in 1541. It was explored by the French in 1724, and by Lieut. Zebulon M. Pike, of the United States army, in 1806. It was made a Territory in 1854, and disputes between the slavery and abolition parties made Kansas a scene of bitter partisan conflict. The repeal of the Missouri Compromise of 1820 opened a new field for the extension of slavery, of which the slaveholders of Missouri and the South hastened to avail themselves, while the anti-slavery party of the North made equally vigor-

ous efforts to people the new Territory. The result was a series of conflicts which continued for four years, in which John Brown, who later died for the cause, was a devoted leader. In the end the party opposing slavery triumphed; a constitution excluding slavery was adopted, and Kansas was admitted as a State, Jan. 29, 1861.

Kansas City, a city and county-seat of Wyandotte co., Kan.; at the junction of the Missouri and Kansas rivers, opposite Kansas City, Mo., with which it has many business interests in common, especially the meat-packing industry. The two cities constitute the second largest live-stock and meat-packing place in the United States. Pop. (1930) 121,857.

Kansas City, a city in Jackson co., Mo.; opposite Kansas City, Kan. It is the farming trade and wholesale center of the Missouri valley, comprising a population of 10,000,000, and having an annual trade of \$500,000,000, and more than 30 of the most important railroads in the country either pass through the city or have a terminus here. The various industries of the city represent a capital investment of more than \$75,000,000, and an annual product of \$150,000,000. Trolley lines connect with Kansas City, Argentine, Armourdale, and Rosedale, in Kansas, places that commercially form a part of the twin cities. The city has 125 churches, several pleasure spots, a waterworks system that cost over \$3,000,000, and more than 25 charitable institutions. The first bridge across the Missouri river, erected here, cost over \$1,000,000, and the New Winner bridge, one of the handsomest structures of the kind in the country, cost over \$1,500,000. The total assessed property valuation exceeds \$135,500,000. Pop. (1930) 399,746.

Kansas River, a large river, formed by the union of the Smoky Hill Fork and Solomon river, 10 miles W. of Abilene, and so called from the tribe of Indians which once dwelt on its shores.

Kansas, University of, a coeducational, non-sectarian institution in Lawrence, Kan.; founded in 1866.

Kansas-Nebraska Bill, The, an act passed by Congress in 1854, during

the administration of President Franklin Pierce, for the purpose of organizing the Territories of Kansas and Nebraska. It provided, among other things, that the question of slavery should be left to the people; that questions involving the title to slaves were to be left to local courts, with the right to appeal to the United States Supreme Court; and that the fugitive slave laws were to apply to the Territories. Further, so far as this region was concerned, the Missouri Compromise of 1820, which excluded slavery from the Louisiana purchase N. of lat. 36° 30' N., except from the State of Missouri, was declared repealed. This measure disrupted the Whig party, most of the S. Whigs joining the Democrats, and led to the organization of the Republican party in 1856. It was also instrumental in bringing about the Civil War.

Kansas Wesleyan University, a coeducational institution in Salina, Kan.; founded in 1886 under the auspices of the Methodist Episcopal Church.

Kansoo, or **Kansu**, an inland province in the N. of China; area, 125,450 square miles; pop., est., 3,810,000. It is mountainous, and is watered by the Yellow river. Capital, Lanchow.

Kant, Immanuel, a German philosopher; born in Königsberg, Prussia, April 22, 1724. His three great works were: "Critique of Pure Reason," which attempts to define the nature of those of our ideas which lie outside of experience, and to establish the basis of valid knowledge; "Critique of the Practical Reason," which bases the ideas of God, freedom, and immortality on the ethical consciousness alone, denying that we have any right to hold them otherwise; and "Critique of the Power of Judgment." He died in Königsberg, Feb. 12, 1804.

Kaolin, or **Kaolinite**, a mineral element found in granite, and generally arising from the decomposition of the felspar. It occurs in many places in very extensive beds. After being levigated it is extensively used in the manufacture of porcelain, and is hence called China clay.

Kapp, Friedrich, a German biographer and historian; born in Hamm, Westphalia, April 13, 1824. He left Germany at the outbreak of

the revolution of 1848, finally wandering as far as New York. He took active part in American politics. Returning to Germany he entered the Reichstag in 1872. Nearly all his works refer to the United States. A citizen of two hemispheres, he was a pioneer in a style of literature that may be called international. He died in Berlin, Oct. 27, 1884.

Karaites, the descendants of the ancient Sadducees. Their system was revised by Anan ben David, A. D. 761 or 762. They reject tradition, and in this respect bear the same relation to the Talmudic Jews that Protestants do to Roman Catholics. They are found in various countries.

Karaman, a town of Asiatic Turkey, situated at the foot of a spur of Mount Taurus. It was the capital of a Turkish kingdom which lasted from the time of the partition of the Seljuk dominions of Iconium till 1486.

Karankawan, a race of North American Indians which in the 17th century lived on the central coast of Texas. They were unusually tall and well built, and given to athletic sports, from which they were called Keles, or "wrestlers." They are now extinct.

Kara Sea, the portion of the Arctic Ocean between Nova Zembla and the Yalmal Peninsula, off the Siberian coast. The Obi and Yenisei rivers discharge their waters into its N. E. corner. Since Nordenskjöld's famous voyage in the "Vega" (1875), various navigators have demonstrated the navigability of the sea. The Kara Sea being navigable for about two months (July and August), can be made available for trade with Siberia.

Karategin, a country of Central Asia, forming the E. province of Bokhara, and having the Russian province of Khokand on the N.; area 8,310 square miles. It is a highland region. The people, Tajiks by race, number about 100,000, with about 5,000 nomad Kirghiz. The native khans claimed to be descended from one of Alexander's captains, and only lost their independence in 1868.

Karauli, a native State in Rajputana, India, separated by the Chambal river from Gwalior; area 1,206 square miles; pop. (Est.) 160,000, nearly all Hindus. Capital Karauli.

Karaveloff, Petko, a Bulgarian statesman; born in 1840; received his early education at Moscow; took his degree at Dorpat; was considered the author of the Bulgarian constitution; died Feb. 6, 1903.

Karensky, Alexander, a Russian executive; born about 1875; became Minister of War on the reorganization of government functions after the deposition of the Czar in 1917. In June he personally led the Russian army in the victorious attack on the Teutonic forces in Galicia, in which more than 10,000 prisoners were taken. Later he went to the front several times and inspired the Russian armies.

Karli, a Chaitya temple-cave in the Bombay presidency, British India, on the road between Bombay and Poona. In front stands a lion-pillar, supporting four lions, and bearing an inscription which ascribes its date to the 1st century B. C. The building consists of "a nave and two side-aisles, terminating in an apse or semi-dome." All the pillars are octagonal, 15 on either side of the nave having richly ornamented capitals bearing elephants and human figures.

Karlsbad. See CARLSBAD.

Karlskrona. See CARLSKRONA.

Karlsruhe. See CARLSRUHE.

Karlstadt. See CARLSTADT.

Karnak, a village in Egypt built on the site of Thebes, on the bank of the Nile, and renowned for its magnificent architectural antiquities. The principal one of these is the Great Temple, 1,200 feet long and 330 feet wide. In this are found great colonnades, obelisks, and a vast quantity of sculptures. Various colored marbles, sandstones and granite are used. Other smaller temples abound, beautifully ornamented with mural decorations which portray the kings, divinities and recreations of those ancient peoples. These temples were erected at various times from 1500 B. C. to 28 B. C.

Karnovitch, Evgenij Petrovitch, a Russian historian; born near Jaroslav, Oct. 22, 1823. His historical work, "Russia's Part in the Deliverance of the Christians from Turkey's Yoke," etc., was important.

Karolyi, Count Aloys de Nagy, an Austrian statesman; born in 1825. He died in 1889.

Karr, Alphonse, a French writer; born in Paris, Nov. 24, 1808. He died in St. Raphael, Var., Sept. 29, 1890.

Kars, a province and town of Russia in Trans-Caucasia; province, area, 7,239 square miles, pop. (1921) 493,000; town, pop. (1921) 27,000. The town is practically a strong fortress, occupying a commanding position on the plateau of Asia Minor, facilitating aggressive movements toward Turkish Armenia. The town has considerable war history, and after a remarkable siege by the Russians in the war of 1877-8 was captured by them.

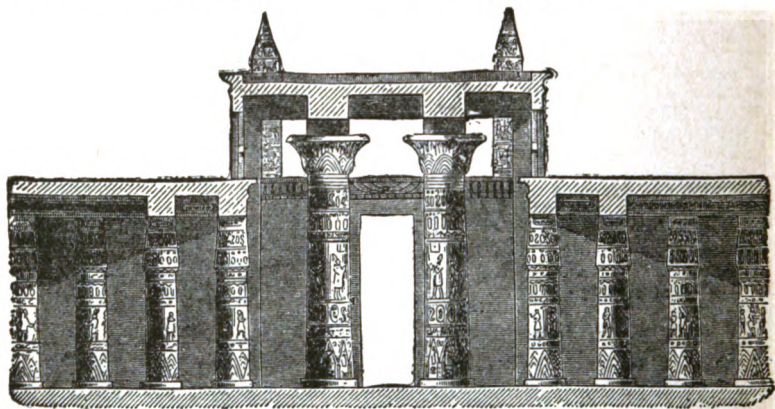
Karshi (ancient Nakhshab), a town of Bokhara, Central Asia, situated on a plain 95 miles S. E. of

Jan. 7, 1878, led to the surrender of the Turkish defenders of the Shipka Pass. Pop. about 20,000.

Kashgar, the capital of Eastern Turkestan, Chinese empire; on a fertile and well-watered plain, 4,043 feet above sea-level. It is important commercially and strategically; in 1759 it was conquered by the Chinese, who held it with short intervals till 1863, when Yakub Beg made it his capital, the Chinese again obtaining possession of it in 1877. Pop. 60,000 to 70,000.

Kashkar, a large species of sheep inhabiting the lofty plateaus of Central Asia.

Kashmir, or **Cashmere**, an extensive principality in the N. W. of



TEMPLE OF KARNAK.

Bokhara city and 80 S. W. of Samarcand. Its knives and firearms are exported to all parts of Central Asia.

Karungu, a town of British East Africa, on Lake Victoria Nyanza, 20 miles from the former German East African frontier. It is in the heart of the hunting grounds where Theodore Roosevelt spent some time during his African expedition.

Karun River, the Ulai of Dan. viii: 2, the sole navigable river of Persia.

Kasanlik, a town of Eastern Rumania, at the foot of the Balkans, five miles from the S. end of the Shipka Pass. Its capture by the Russians

Hindustan, subject to a ruler (the Maharajah) belonging to the Sikh race. Area, estimated, 80,000 square miles; pop. (1921) 3,222,080. The chief manufacture is that of the celebrated Kashmir shawls. The genuine Kashmir shawls owe their superiority to the material of which they are made, which is not wool, but a fine kind of down obtained from the Kashmir goat, a variety of the common goat remarkable for its fine downy fleece. The colder the region where the goat pastures, the heavier is its fleece. The full-grown goat yields not more than eight ounces, the fine curled wool being close to the skin. A large

shawl of the finest quality requires five pounds of the wool; one of the inferior quality from three to four pounds. It is spun by women and girls, and then passes into the hands of the dyers. From the dyers the yarns are passed to the weaver, and the shawl is woven in strips, which are afterward very skillfully sewed together. The average time taken to manufacture a good Kashmir shawl is from 16 to 20 weeks. The inhabitants of Kashmir are a fine race physically, tall, strong, and well-built, with regular features. The Maharajah is independent, but his relations with other states are subject to the authority of the government of India. The capital of the whole principality is Jammu. Srinagar (or Kashmir) is the Maharajah's summer residence and largest town.

Kaskaskia, Fort, an ancient and Revolutionary fort on the site of the present city of Kaskaskia, Ill., the first capital of the State.

Kassala, a fortified town, formerly the capital of the Nubian district of Taka, on a tributary of the Atbara, 260 miles S. of Suakim.

Kasson, John Adam, an American diplomatist; born in Charlotte, Vt., Jan. 11, 1822; was graduated at the University of Vermont in 1842; settled in Iowa and practised law; member of Congress in 1863-1867; 1873-1877, and 1881-1884; United States minister to Austria in 1877-1881 and to Germany in 1884-1885; appointed United States special commissioner plenipotentiary to negotiate reciprocity treaties in 1897; and member of the Joint High Commission on American-Canadian affairs in 1898. He was the author of "History of the Monroe Doctrine." Died in 1910.

Katahdin, the highest mountain in Maine, about 80 miles N. by W. of Bangor. Altitude, 5,200 feet.

Katahdin, The, a former twin-screw, steel, harbor-defense ram of the United States navy.

Kater, Henry, an English physicist; born in Bristol, England, April 16, 1777. He died in London, England, April 26, 1835.

Kater's Pendulum, a contrivance for measuring the force of gravity, named from its inventor, Henry Kater.

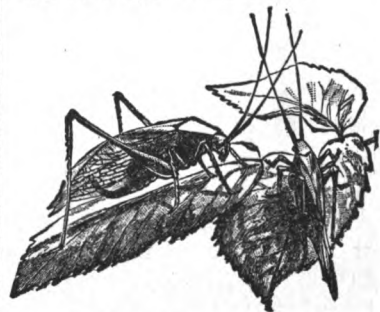
Kathiawar, a peninsula on the W. coast of India, between the Gulf of Cambay and the Gulf of Cutch. Politically, the name Kathiawar Agency is given to a collection of 187 states, which among them embrace the greater part of the Kathiawar Peninsula. Area of agency, 20,559 square miles; pop. (Est.) 2,500,000.

Katkoff, Michael Nikiforovich, a Russian journalist; born in Moscow, in 1818. He died in Snamensky, near Moscow, Aug. 1, 1887.

Katmandu, the capital of Nepal, stretching for about a mile N. from the confluence of the Baghmata and Vishnumati rivers. It contains a great number of temples. The principal building is the immense ugly palace of the Maharajah; close to its modern reception room is the large military council chamber, where in 1846 most of the chief men of the state were massacred. Pop. about 50,000.

Katona, Isturam, the historian of Hungary; born Dec. 15, 1732. His most important work, and one of the highest authority, is his "History of Hungary" from the earliest times down to the year 1801. He died Aug. 17, 1811.

Katrine Loch, one of the most celebrated of Scotch lakes, in Stirling and Perthshire, 5 miles E. of Loch Lomond and $9\frac{1}{2}$ W. of Callander. Lying 364 feet above sea-level, it has a maximum depth of 468 feet, and an area of 3,119 acres. Since 1859 it has supplied Glasgow with water.



ROUND WINGED KATYDID.

Katydid, a name applied to numerous American insects, nearly related

to grasshoppers. They are arboreal in habit, and are well concealed in the foliage by their green color. The true katydid is abundant in the Central and Western States. In their general habit, the "song" to which the syllables kat-y-did refer, and in the egg-laying accomplished by the long ovipositors of the females, these lively insects resemble the grasshopper.

Kanai, a fertile island, of volcanic origin, belonging to Hawaii; area 547 square miles; pop., with Niihau, (1910) 23,952. Its highest point is 5,000 feet; principal industry sugar-planting. Captain Cook landed at the mouth of the Waimea river in 1778.

Kaufmann, Constantine von, a Russian general of German descent; born near Ivangorod, Russian Poland, May 3, 1818. Through his energetic policy Russia became the predominating power in Central Asia. He died in Tashkend, May 16, 1882.

Kaunitz, Prince Wenzel Anton von, Count of Rietberg, an Austrian statesman; born in Vienna, Feb. 2, 1711. He formed the coalition against Frederick the Great in 1756. He died June 27, 1794.

Kauri Pine, or Kowrie, a species of dammar, a native of New Zealand. It is a tree of great size and beauty, attaining a height of 140 ft or more, with whorls of branches, the lower of which die off as it becomes old. The timber is white, close-grained, durable, flexible, and very valuable for masts, yards, and planks. The Fiji Islands, New Hebrides, and Australia produce other species. All of them are trees of dark, dense foliage, and produce a resin called Kauri resin, or Kauri gum, and sometimes Australian copal and Australian dammar.

Kautz, Albert, an American naval officer; born in Georgetown, O., Jan. 29, 1839; was graduated at the United States Naval Academy in 1850; prisoner in North Carolina and Richmond, Va., June-October, 1861; flag-lieutenant to Farragut in 1862. When New Orleans was surrendered he entered the city and raised the National flag over the custom house; promoted lieutenant-commander in 1865; commander in 1872; captain in 1885; commodore in 1897; and rear-admiral in 1898; and in the latter year was given command of the Pacific station.

B.-44.

In March, 1899, while commanding the "Philadelphia," he took a prominent part in settling the Samoan troubles. After holding a meeting of all the consuls and the senior officers of the English and German war vessels in the harbor on board his ship, he issued a proclamation declaring that the provisional government under Mataafa was not in accord with the terms of the Berlin treaty. The German consul, however, advised the natives to resist the demands, and this resulted in hostilities, in which several American and British officers were killed and others wounded, while the natives lost heavily before order was restored. Admiral Kautz retired in January, 1901. He died Feb. 6, 1907.

Kautz, August Valentine, an American military officer; born in Ispringen, Germany, Jan. 5, 1828; brother of Admiral Kautz. His parents settled in Ohio in 1832. He was graduated at the United States Military Academy in 1852; served through the Civil War; promoted captain in 1861; distinguished himself at Monticello, Ky., at Petersburg, Va., in the engagement on the Darbytown road in Virginia, in the capture of John Morgan, the Confederate raider, and in the Richmond campaign; promoted colonel in 1874 and Brigadier-General in 1891. He died in Seattle, Wash., Sept. 4, 1895.

Kava-Kava, Ava-Ava, or Kawa, a small shrub, about six feet high, with stems 1 to 1½ inches thick, native of the South Sea islands.

Kavanagh, Julia, a British novelist; born in Thurles, County Tipperary, Ireland, Jan. 7, 1824. She died in Nice, Oct. 28, 1877.

Kavi, or Kawi, the ancient sacred language of Java, with a vocabulary based chiefly on Sanskrit.

Kay, John, an English inventor; born near Bury, Lancashire, England, July 16, 1704. In 1733 he invented the fly shuttle and in 1745 a power loom for the weaving of narrow goods. These inventions excited the anger of the working classes, who obliged him to flee to France, where he died in destitution about 1764.

Kazan, a city of European Russia, capital of the province of the same name; on the Kasanka, about 4 miles above its junction with the Volga. It

is strongly fortified. Pop. (Est.) 200,000. Kazan province: area, 24,601 square miles; pop. (Est.) 3,000,000.

Kea, the native New Zealand name for a genus of parrots, of which only three species are known. One is a mountain species, confined to the South Island; originally a vegetable and insect feeding bird, on the introduction of sheep it began to frequent the station and feed on offal; later on the parrot acquired the habit of destroying live sheep.

Kean, Charles John, an English actor; son of Edmund Kean; born in Waterford, Ireland, Jan. 18, 1811. In 1827 he took to the stage. In 1830 he visited America, reappearing as a leading actor in London in 1838. He married the accomplished actress Ellen Tree in 1842; revisited the United States in 1845, and in 1851 became sole lessee of the Princess' Theater, London, where he put some of Shakespeare's plays on the stage with a splendor never before attempted. In 1863 he made a tour to the United States, Australia, Jamaica, Canada, etc., which proved a great financial success. His success was largely due to effective staging. He died in London, England, Jan. 22, 1868.

Kean, Edmund, an English actor; born in London, Nov. 4, 1787. Kean is said to have declared himself to be an illegitimate son of the Duke of Norfolk. Nance Carey, his mother, being an actress, Kean from his infancy made occasional appearances on the stage. He succeeded in obtaining an engagement at Drury Lane Theater, where he made his first appearance as Shylock, Jan. 26, 1814. His success was immediate, and he at once took rank as the first actor of the day. Kean paid a long visit to America. On his return to England at the end of 1826 he was cordially received. March 25, 1833, he broke down hopelessly, while playing Othello to the Iago of his son Charles, and never acted again. He died in Richmond, May 15, 1833.

Keane, John Joseph, an American clergyman; born in Ballyshannon, County Donegal, Ireland, Sept. 12, 1839. In 1846 he was brought by his family to the United States; was educated in Maryland; ordained in the Roman Catholic Church; became Bishop of Richmond, rector of the Catho-

lic University of America, and was consecrated Archbishop of Dubuque, Iowa, in 1900.

Kearney, Denis, an American agitator; born in Oakmont, County Cork, Ireland, in 1847; became foreman of a gang of stevedores in San Francisco in 1872, and soon after started in the draying business. He took an interest in politics, and 1877, owing to interference with his business, he began to excite the workmen of San Francisco against capital, Chinese labor, etc., mass meetings being held in a suburb called the "Sandlots." The movement instigated by him finally succeeded in packing a convention and organizing a new constitution in its own interest for the State of California. In 1878 he spoke throughout the East, but failed to make much impression. Died in 1907.

Kearny, Stephen Watts, an American military officer; born in Newark, N. J., Aug. 30, 1794; left Columbia College to enter the American army in March, 1812; distinguished himself at Queenston Heights; promoted captain in April, 1813; after the war, was promoted through various grades, becoming Brigadier-General in 1846. In the Mexican War, commanding the Army of the West, he conquered New Mexico; and establishing a provisional government at Santa Fe he proceeded to California, where, Dec. 6, 1846, he fought the battle of San Pascual, in which he was twice wounded; was governor of California, March to June, 1847; governor of Vera Cruz, March, 1848; of the city of Mexico, May, 1848; brevetted Major-General. He died in St. Louis, Mo., Oct. 31, 1848.

Kearny, Philip, an American military officer; born in New York city, June 2, 1815. Though educated for the law, he entered the 1st United States dragoons as 2d lieutenant, and was shortly afterward dispatched by the government to Europe, to study and report upon the system of tactics pursued in the French cavalry service. After entering the Ecole Polytechnique, Paris, and serving as a volunteer in the ranks of the Chasseurs d'Afrique in an Algerine campaign, Kearny returned to the United States in 1840. From 1841 to 1844 he acted as aide to General Scott, and in 1846

became captain. Kearny served throughout the Mexican campaign, and was brevetted major for his distinguished gallantry at Contreras and Churubusco. On the termination of the war he commanded a force sent against the Indians of the Columbia River. In 1851, resigning his commission, he went to Europe, and served as volunteer aide-de-camp on the French staff throughout the Italian campaign of 1859. On the outbreak of the Civil War in 1861, Kearny hastened home, was appointed Brigadier-General of volunteers in May, and exhibited his dashing courage in all the battles of the Chickahominy campaign. In 1862 (July 4) he was commissioned Major-General of volunteers, and was killed while making a personal reconnaissance within the Confederate lines at Chantilly, Sept. 1, following.

Kearsarge. (1) A mountain 3,250 feet high, situated in Carroll co., N. H.; (2) a mountain 2,950 feet high, in Merrimac co., N. H.

Kearsarge, The, a ship of the United States navy which played a conspicuous part in the only sea-fight of the Civil War. She was launched at Portsmouth, N. H., in September, 1861. She had an armament of seven guns; two 11-inch Dahlgren, one 30-pounder rifle, and four light 32-pounders. She carried 163 men in all, and was commanded by Capt. John A. Winslow. On June 10, 1864, while off the coast of Cherbourg, France, she fell in with the Confederate cruiser "Alabama," accompanied by the English yacht "Deerhound." A fierce battle ensued, lasting for two hours, when the Confederate colors were struck and a white flag raised. Soon after the "Alabama" went down, the officers and crew being rescued by the "Kearsarge" and the "Deerhound." The "Kearsarge" was wrecked Feb. 2, 1864, on a reef in the Caribbean Sea.

Kearsarge, The, a twin-screw, steel battleship of the United States navy, launched, with her sister ship, the "Kentucky," at Newport News, March 24, 1898. Her dimensions, armament, etc., are as follows: length on load-water line, 368 feet; beam extreme, 72 feet 2.5 inches; mean draft, 23 feet 6 inches; displacement, 11,525 tons; horse power, 10,000; speed, 16 knots per hour; main battery, four 13-

inch, four 8-inch, and fourteen 5-inch rifles; secondary battery, twenty 6-pounders, six 1-pounders, and four machine guns; cost, about \$4,000,000. She carries a complement of 511 men. Both the "Kearsarge" and the "Kentucky" are fitted with superimposed turrets, an experiment whose usefulness has been questioned by naval experts. The Kearsarge, with Admiral Cotton on board, visited England and Germany in 1903, and was splendidly received.

Keats, John, an English poet; born in London, England, Oct. 31, 1795. Leigh Hunt lent the kindly sanction of his name to the first poems Keats published in 1817. In the next year he published "Endymion," a poetical romance, and, in 1820, his last and best work, "Lamia," and other poems. These poems were very roughly treated by the "Quarterly Review," and Keats, with his over-sensitive nature, took it too much to heart. Being in feeble health, from a severe pulmonary disease, he was advised to try the climate of Italy, where he arrived in November, 1820. He died in Rome, Feb. 23, 1821. Shelley lamented his poet friend in the beautiful and well-known "Adonais."

Keble, John, an English poet; born in Fairford, Gloucestershire, England, April 25, 1792. Of his great work "The Christian Year" over 500,000 copies in all have been sold, and from its profits the author built one of the most beautiful parish churches in England. He died in England, March 27, 1866.

Kedge, a small anchor used to keep a ship steady and clear from her bower anchor, while she rides in a harbor or river, also in removing her from one part of a harbor to another.

Kedron, or Kidron, spoken of as a "brook" in the English Bible, should rather be called (as in John, xviii: 1, new version, margin) "ravine" or "winter torrent." It is a gorge close to Jerusalem on the E., running away in the direction of the Dead Sea. Water never flows in it save during the heavy rains of winter. At other times it is a dry wady.

Keel, in shipbuilding, the lower longitudinal beam of a vessel, answering to the spine, and from which the ribs

proceed. In wooden vessels an additional timber beneath is called the false keel. A sliding keel is a board amidships, working in a trunk in the line of the keel, and extending from the bottom to the deck. It is lowered to prevent a vessel's making leeway when sailing with a side wind.

Keeley, Leslie E., an American physician; born in 1842; was graduated at Rush Medical College in 1864. He founded the system for the cure of inebriety and the use of narcotics, commonly known as the gold or Keeley cure. He died in Los Angeles, Cal., Feb. 21, 1900.

Keel-haul, or Keel-hale, to punish in the seamen's way by dragging the offender under water on one side of the ship and up again on the other by ropes attached to the yard-arms on either side. In small vessels the culprit is drawn under the craft from stem to stern. In a recent instance in the Egyptian navy an offender was keel-hauled till he died.

Keeling, or Kokos Keeling, Islands, a group of about 20 small coral atolls in the Indian Ocean, lat. 12° S., and about 500 miles S. W. of Java; pop. 554. These islands were discovered by Captain Keeling in 1609. They were annexed to England in 1857.

Keelson, or Kelson, in shipbuilding, a longitudinal piece above the floor timbers, binding them to the keel.

Keely, John Ernest Worrell, an American adventurer; born in Philadelphia, Pa., Sept. 3, 1837. In early life he was a carpenter, and afterward was attached to a circus as sleight-of-hand performer. Prior to 1872 he became interested in music, and afterward claimed that the tuning-fork had suggested to him a new motive power. For 25 years he succeeded in deceiving the people of two continents in claiming to have discovered the hidden force moving the universe, and to have utilized this force in a machine known as the Keely motor. He died in Philadelphia, Pa., Nov. 18, 1898.

Keely Motor, a machine exhibited after years of experiment by John E. W. Keely, and which appeared to have great power. From 1872 to 1891 he built and rejected 129 different models; in 1881 a wealthy woman of Philadelphia built a new laboratory for

him, and also furnished a weekly salary, that he might continue his experiments. At various exhibitions he produced wonderful effects, but never revealed how these were accomplished, and it was only after his death that the whole scheme was found to be a fraud, his machine having been operated by a compressed air motor in the cellar.

Keen, William Williams, an American surgeon; born in Philadelphia, Pa., Jan. 19, 1837; was graduated at Brown University in 1859, and at Jefferson Medical College in 1862; assistant surgeon 5th Massachusetts regiment in 1861; acting assistant surgeon United States army, and studied in Europe. He paid special attention to the surgery of the nervous system; was a pioneer in cerebral surgery; in 1890 published experiments with the injection of filtered air for the determination of rupture of the bladder; in 1891 proposed relieving spasmodic wryneck by the excision of the nerves supplying the posterior rotator muscles of the head.

Keene, Laura, an American actress; born in England in 1820. She came to the United States in 1852 and made her home here the remainder of her life. She was for a time manager of the Varieties Theater in New York, and 1855-1863 was the lessee of the Olympic, at first called "Laura Keene's Theater." Among the new plays she produced was "Our American Cousin," with Jefferson and Sothorn in the cast. It was while witnessing this play at Ford's Theater in Washington that President Lincoln was assassinated, and Mrs. Keene was one of the first to reach his side and attempt to relieve him. She died in Montclair, N. J., Nov. 4, 1873.

Keeners, Irish singing mourners, who, in olden times, were hired to howl at funerals, in perpetuation of a heathen custom derived from a Phœnician ancestry.

Keewatin, a former district of Canada; now a part of the Northwest Territories; area, 756,000 square miles. It is nearly uninhabited, excepting by Eskimos in the N. Norway House, an important station of the Hudson Bay Company, and one or two other posts belonging to that corporation, are the only settle-

ments in the district. The principal attraction is the game, large and small, with which it abounds. In some parts valuable minerals are believed to exist, but they have not been developed. The country is well watered and timbered in many places, but is not suitable for cultivation to any extent. It embraces the N. part of Lake Winnipeg, with its important fisheries, and includes the mouth of the Saskatchewan river, which is navigable, except for a short distance, for nearly 1,000 miles. The Nelson river passes through the district, as well as the Churchill and numerous smaller streams; and the Chesterfield Inlet on the W. side of Hudson Bay penetrates nearly to its W. boundary. It was created a district April 12, 1876.

Keith, James, known as Marshal Keith, a Russian and Prussian military officer; born near Peterhead, Scotland, June 11, 1696. He studied law at Aberdeen and Edinburgh; in 1715 engaged with his brother in the Jacobite rising, and in 1719 in Al-beroni's expedition to the West Highlands. Both times the brothers escaped to the Continent; and James held for nine years a Spanish colonelcy. In 1728 he entered the Russian service as a Major-General. He distinguished himself in the wars with Turkey and Sweden. To be healed of a wound received on the former occasion he visited Paris, and thence crossed over to London, where he made his peace with the Hanoverian government. In 1747, finding the Russian service disagreeable, he exchanged it for that of Prussia. Frederick the Great gave him at once the rank of Field-Marshal. From this time his name is associated with that of the King of Prussia. Keith's talents became still more conspicuous on the breaking out of the Seven Years' War (1756). He was killed at the battle of Hochkirch, Oct. 14, 1758.

Kelat, Khelat, or Kalat, the capital of Baluchistan, at an elevation of more than 7,000 feet; seated on the summit of a hill, it is a place of great military importance. It was occupied by England (1839-1841); and in 1877 a treaty was concluded with the khan by which a British agent, with military escort, became resident at the court of Kelat. In 1888 Kelat

was formally incorporated with the Indian empire as a British possession. Pop. about 14,000.

Kelati Nadiri, one of the strongest natural fortresses in the world, in the Persian province of Khorasan, and close to the Russian frontier of Transcaspiia. Owing to Russia's schemes on Khorasan Kelati Nadiri has gained considerable importance.

Kellermann, Francois Christophe, a marshal of France; born in Strasburg in 1735. Early entering the service of his country, he gained great distinction in the Seven Years' War. Having joined the popular side on the breaking out of the Revolution, he was given the command of the army of the North, and in 1792 gained the splendid victory of Valmy over the Prussians, and was, in 1795, intrusted with the command of the armies of Italy and the Alps. The ascending star of Napoleon superseded Kellermann as an independent commander. At the Restoration he was created a peer of France. He died in 1820.

Kelley, Edgar Stillman, an American composer; born in Sparta, Wis., April 14, 1857; studied music in the United States and in Stuttgart, Germany; settled in New York, where he became special instructor in composition in the New York College of Music, and where his opera, "Puritana," was produced in 1892.

Kelley, James Douglas Jerrold, an American naval officer; born in New York city, Dec. 25, 1847; was graduated at the United States Naval Academy in 1868; promoted commander in 1899; retired in 1901; author of numerous works on naval subjects. Died in 1922.

Kelley, William Darrah, an American legislator; born in Philadelphia, Pa., April 12, 1814. After receiving a common school education he was apprenticed to a jeweler, and he worked at his trade for five years in Boston. Returning to Philadelphia in 1839, he studied law and was admitted to the bar in 1841. He took part in politics as a Democrat and was attorney-general of Pennsylvania 1845-1846. He was judge of the court of common pleas 1846-1856, and in the meantime joined the Republican party. He was elected to Congress in 1860, and remained there by successive elec-

tions till his death. He was known as the "Father of the House." He died Jan. 9, 1890.

Kellogg, Clara Louise, an American opera singer; born in Sumterville, S. C., July 12, 1842. She obtained her musical education in New York city, with the exception of a few lessons taken in London, England. Her first appearance in opera was in 1861 at the Academy of Music in New York city. Her voice was a pure and flexible soprano and her execution brilliant. In 1887 she was married to Carl Strakosch and retired.

Kellogg, Edgar Romeyn, an American military officer; born in New York city, March 25, 1842; served through the Civil War; promoted captain in 1865; colonel, 1898; Brigadier-General, 1899; commanded the 10th U. S. Infantry at San Juan Hill, Cuba, July 1, 1898. He died Oct. 7, 1914.

Kellogg, Frank Billings, American lawyer and diplomat; born in Potsdam, N. Y., Dec. 22, 1856. Studied law and settled in Minnesota; U. S. Senator, 1917-23; Ambassador to Great Britain, 1924-25; Secretary of States, 1925-

Kellogg, Samuel Henry, an American theologian; born in Quogue, Long Island, N. Y., Sept. 6, 1839; was graduated at Princeton College in 1861 and at the Theological Seminary in 1864; was ordained in the Presbyterian Church and went as a missionary to India, where he remained till 1877; returned to India in 1892. D. 1899.

Kelly, James Edward, an American sculptor; born in New York city, July 30, 1855; studied art at the National Academy of Design. Since his "Sheridan's Ride" (1878) he executed a large number of military and naval memorials. In 1895 he furnished the Long Island panel, and in 1897 the memorial of the battle of Harlem Heights on the grounds of the Columbia University, both for the Sons of the Revolution. He has also illustrated several magazines.

Kelly, John, an American politician; born in New York city, April 21, 1821; received a public school education; was a Democratic member of Congress, and comptroller of New York city. He died in New York city, June 1, 1886.

Kelvin, William Thomson, 1st Lord, a British scientist; born in Belfast, Ireland, June 26, 1824; was Professor of Natural Philosophy in Glasgow University in 1846-1899; electrician for the Atlantic cables in 1857-1858 and 1865-1866; electrical engineer for the French (1859), Brazilian (1873), West Indian (1875), and Mackay-Bennett (1879) cables; invented the mirror galvanometer and siphon recorder for submarine telegraphy and various apparatus for navigation and deep sea exploration; President of the Royal Society in 1890-1895; knighted in 1866; raised to the peerage in 1892; died Dec. 17, 1907.

Kemble, Charles, an English actor; born in Brecknock, Wales, Nov. 25, 1775; entered the postal service in 1792, but relinquished it for the stage in 1794. He was appointed censor of plays in 1840, when he retired from the stage and only gave occasional Shakespearean readings. He had married the favorite actress Miss de Camp in 1806. He was the father of John Mitchell Kemble, Frances Anne Kemble, and Adelaide Kemble. He died in London, Nov. 12, 1854.

Kemble, Frances Anne, popularly known as Fanny Kemble, an Anglo-American writer and actress; eldest daughter of Charles Kemble, and niece of Mrs. Siddons; born in London, England, Nov. 27, 1809. Her father being in financial difficulties she was induced to appear on the stage. Her trip to America in company with her father was also a splendid triumph; while there she contracted an unfortunate marriage (1834), which was annulled by divorce 15 years afterward. She lived for many years in Lenox (Mass.). She returned to London in 1847, and from that time resided alternately in the United States, England, and the Continent. She died in London, England, Jan. 16, 1893.

Kemble, John Mitchell, an English Anglo-Saxon scholar, son of Charles Kemble; born in London, England, April 2, 1807. He died in Dublin, Ireland, March 26, 1857.

Kemble, John Philip, an English tragedian; born in Prescot, near Liverpool, England, Feb. 1, 1757. He was eldest son of Roger Kemble, man-

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ager of a provincial theatrical company. Being intended for the Church, he was sent to the Roman Catholic college at Douay (France), but he selected the stage as a profession; he made a most successful tour of France and Spain, and on his return to London purchased a share in the Covent Garden Theater, and made himself a splendid reputation. His theater having been burned down, he opened the new edifice in 1809. He abandoned the stage in 1817. His statue was placed in Westminster Abbey in 1833. His sister, Sarah, was the celebrated Mrs. Siddons. He died in Lausanne, Switzerland, Feb. 26, 1823.

Kempelen, Baron Wolfgang von, an Austrian mechanician; born in Pressburg, Hungary, Jan. 23, 1734. He invented a so-called automaton chess player (in which a living player was concealed) for the amusement of the Empress Maria Theresa, exhibited in the United States, Paris and England; also an automaton speaking human figure in 1778. He died in Vienna, March 26, 1804.

Kemper, Jackson, an American clergyman; born in Pleasant Valley, Dutchess Co., N. Y., Dec. 24, 1789; was graduated at Columbia College in 1809; deacon in 1811; priest in 1812; missionary Bishop of Indiana and Missouri; transferred to the Northwestern Territory; Bishop of Wisconsin in 1854; died in Delafield, Wis., May 24, 1870.

Kemper, Reuben, an American adventurer; born in Fauquier co., Va., in 1770; was bitterly opposed to the Spanish and devoted much of his time to seeking to drive them out of North America; commanded a force of 600 soldiers in aiding the Mexican insurgents in their conflict with Spain in 1812; and fought under General Jackson at New Orleans in 1815. He died in Natchez, Miss., Oct. 10, 1826.

Kempff, Louis, an American naval officer; born near Belleville, Ill., Oct. 11, 1841; was graduated at the United States Naval Academy in 1861; assigned to the "Vandalia" on blockade duty off Charleston; served with distinction throughout the Civil War; captured the schooner "Henry Middleton," and took part in the battle at

Kendal

Port Royal, S. C.; promoted captain in 1891; rear-admiral in 1899. When the Boxer troubles began in China in 1900 he was placed in command of the United States naval forces in Chinese waters. On May 29 he sent 108 marines ashore, who cooperated with the men landed from the other foreign warships in the harbor at Taku. An attempt was made to send this combined force to Peking, where the foreign legations were besieged by Boxers, but it failed. Later, however, a part of the international troops, including 63 Americans, went to the capital by train, reaching there June 1. The troubles increased to such an extent that the foreign admirals at Taku, with the exception of Kempff, ordered the surrender of the forts at Taku and when this was refused bombarded them and compelled their surrender. At the time Admiral Kempff was censured, but later he showed that it was not the policy of the United States to commit any act which might be construed by the Chinese as a casus belli. The attack on the Taku forts he held was equivalent to a declaration of war against China. His action was afterward approved by statesmen generally. He was retired Oct. 11, 1903, and was on special duty in 1904-5.

Kempis, Thomas a, a German mystic; born in Kempen (whence his name, "Thomas from Kempen"), near Cologne, in 1380. His true name was Hamerken. Sub-prior of the monastery of Mount St. Agnes, near Zwolle, he was distinguished for piety and success as an instructor of youth. He was author of the "Imitation of Christ," one of the most famous of books. It is said that it has been translated into more languages than any other book except the Bible. He died in 1471.

Kendal, Mrs. (Madge Grimston), an English actress; born in Cleethorpes, Lincolnshire, England, March 15, 1849. She was known on the stage as Madge Robertson and made her first appearance in London, as Ophelia, in 1865. She soon gained a reputation as an excellent actress of high comedy. On her marriage to W. H. Grimston in 1869 she assumed with him the stage name of Kendal. Mr. and Mrs. Kendal made several visits

Kendal

to America after 1889. Mrs. Kendal was a sister of the dramatist T. W. Robertson.

Kendal, William Hunter, stage name of an English actor, William H. Grimston, who was born in London, Dec. 16, 1843. After his marriage to Madge Robertson (Aug. 7, 1869), played leading parts with her. D. 1917.

Kendall, Amos, an American statesman; born in Dunstable, Mass., in 1789. He was graduated at Dartmouth College in 1811; was admitted to the bar in 1814 and went to Kentucky, where he practised law and edited a paper. In 1835 he was appointed Postmaster-General by President Jackson and was retained in the office by President Van Buren. He made great changes and improvements in the administration and workings of this office, relieved the postoffice from the debt which had so long encumbered it, and induced Congress to adopt a system which with but few alterations has been in effect ever since, and which made this department one of the strongest in the government. He retired from public life in 1840 and devoted the rest of his life to the duties of his profession. He died in Washington, D. C., Nov. 12, 1869.

Kendall, George Wilkins, an American writer; born in Mount Vernon, N. H., about 1809. He was founder of the New Orleans "Picayune," which became under his direction one of the leading journals of the South. He died in Oak Springs, Tex., Oct. 22, 1867.

Kendrick, Asahel Clark, an American scholar; born in Poultney, Vt., Dec. 7, 1809. Besides bringing out translations and several text-books, he published "Our Poetical Favorites"; "Life and Letters of Emily C. Judson." He was one of the American committee of New Testament revisers. He died in Rochester, N. Y., Oct. 21, 1895.

Kenesaw Mountain, a mountain in Georgia, 25 miles N. W. of Atlanta. It is famous as the scene of a battle in the Civil War between the Union troops under Sherman, and the Confederates under Johnston, which took place in June, 1864, and resulted in the repulse of Sherman with a loss of 3,000 men.

Kenrick

Kennan, George, an American traveler; born in Norwalk, O., Feb. 16, 1845. His journeys through Northern Russia and Siberia in the years 1885-1886 for the purpose of investigating the condition of the Siberian exiles resulted in the publication of a series of papers, afterward issued in book form under the title "Siberia and the Exile System." Died May 10, 1924.

Kennebec, a river of Maine, over 150 miles in length. In its course it falls 1,000 feet, affording abundant water power. Except for a few miles from its mouth, the river is closed by ice for from three to four months in the year; and many companies are engaged in harvesting and storing the ice.

Kennedy, Crammond, an American lawyer; born in North Berwick, Scotland, Dec. 29, 1842; came to the United States in 1856; served as chaplain in the Civil War in 1861-1863; was associated with Henry Ward Beecher in 1869 in founding the "Christian Union," of which he became editor in 1870; admitted to the bar in 1878 and practised in New York and Washington, D. C.

Kennedy, John Pendleton, an American writer; born at Baltimore Oct. 25, 1795, was a member of Congress and Secretary of the Navy under President Fillmore. He died Aug. 18, 1870.

Kenosha, city and capital of Kenosha county, Wis.; on Lake Michigan and the Chicago & Northwestern railroad; 34 miles S. of Milwaukee; is in a fine farming and dairying section; is noted as a summer and health resort; and contains the University School (P.E.). Population (1930) 50,262.

Kenrick, Francis Patrick, an American clergyman; born in Dublin, Ireland, Dec. 3, 1797. He founded the seminary of St. Charles Borromeo in Philadelphia in 1832; became archbishop of Baltimore, 1851; honorary primate of the United States 1859. He died in Baltimore, Md., July 6, 1863.

Kenrick, Peter Richard, an American clergyman; born in Dublin, Ireland, Aug. 17, 1806; ordained priest in the Roman Catholic Church in 1830; came to the United States in 1833; appointed coadjutor to Bishop Rosati of St. Louis in 1841, and suc-

ceeded to that bishopric in 1843; was created first archbishop of St. Louis in 1847. He died in St. Louis, Mo., March 4, 1896.

Kensett, John Frederick, an American painter; born in Cheshire, Conn., March 22, 1818. He spent the time from 1840 to 1847 in Europe, visiting and painting in France, Italy, England and other countries, and in 1849 was elected National Academician. He is best known by his paintings of the White Mountains, Catskills, Adirondacks, etc. In 1859 he was appointed one of the commission to superintend the decoration of the capitol at Washington. He died in New York, Dec. 16, 1872.

Kent, Duke of, 4th son of George III. and father of Queen Victoria; born in Buckingham Palace, London, Nov. 2, 1767; married Victoria Mary Louisa, May 28, 1818; died in Sidmouth, Devonshire, England, Jan. 23, 1820.

Kent, Jacob F., an American soldier; born in Philadelphia, Pa., Sept. 14, 1835; entered the army as 2d lieutenant of the 3d United States Infantry, May 6, 1861. Was promoted 1st lieutenant July 31, 1861; captain Jan. 8, 1864; brevetted lieutenant-colonel, May 12, 1864, for gallant meritorious services in the battle of Spottsylvania, Va.; brevetted colonel of volunteers, Oct. 19, 1864, for faithful and meritorious services in the field during the campaign before Richmond. When the war with Spain began he was colonel of the 24th Infantry. He was made Major-General of volunteers, July 8, 1898, and served with distinction in Cuba and afterward in the Philippines. He was retired Oct. 15, 1898.

Kent, James, an American jurist; born in Philippi, N. Y., July 31, 1763. Author of the famous "Commentaries on American Law" (4 vols. 1826-1830), which holds in this country a position similar to that occupied by Blackstone's "Commentaries" in Great Britain. He was chief-justice and chancellor of the State of New York. He died in New York, Dec. 12, 1847.

Kent Island, an island some 16 miles long in Chesapeake Bay, Md., 7 miles E. of Annapolis. It was here

the first settlement in Maryland was made by William Claiborne in 1631.

Kentucky, a State in the South Central Division of the North American Union; area, 40,598 square miles; admitted to the Union, June 1, 1792; number of counties, 120; pop. (1930), 2,620,668; capital, Frankfort.

The surface of the State is in general a plateau, sloping from the mountains in the E. to the rivers on the N. and N. W. The mountains in the S. E., the Cumberland and the Pine, run parallel and include the valley of the Cumberland river. This valley is 75 miles in length, 15 miles in width and has an elevation of 1,000 to 1,500 feet above sea-level. The mountain peaks bounding the valley often reach a height of 2,500 feet and give it more picturesque beauty than in any other part of the Appalachian system. The Mississippi, Ohio, and Big Sandy rivers form over one-half the boundary line of Kentucky, and besides these the Licking, Kentucky, Salt, and Green lie entirely within the State. The Tennessee and Cumberland rivers rise in Virginia and Kentucky respectively, the Tennessee running through Tennessee and Alabama, and the Cumberland through Tennessee alone; enter the State and cross it in parallel courses and empty into the Ohio within 15 miles of each other. These rivers are all navigable.

In 1928 the value of all mineral products was \$131,970,000, coal leading with 61,860,000 short tons. The soil is as a rule exceedingly rich and fertile, especially in that part known as the Blue Grass section, an area of over 10,000 square miles. In 1925, the value of all farm property was \$963,569,000; in the calendar year 1929 the value of 67 farm crops was reported at \$193,400,000 of which corn represented \$73,523,000; tobacco, \$65,856,000; hay, \$28,116,000; potatoes, \$5,940,000; oats, \$3,679,000; animals on farms were as follows: horses, 248,000; mules, 256,000; cattle, 955,000; milch cows, 498,000; swine, 702,000; sheep, 996,000. The principal industries are in connection with tobacco, liquors, flour and grist mill products, lumber and timber products, iron and steel, slaughtering and meat packing, and foundry and machine-shop products. In 1927 there

were 1,851 establishments employing 74,912 wage-earners, paying \$83,859,000 for wages, \$250,633,000 for materials, supplies, fuel and power and yielding products valued at \$447,765,000.

The school census of 1928 showed 582,181 pupils enrolled in public and private elementary and secondary schools under 16,007 teachers; 598 public and private high schools and academies with 58,101 pupils and 2,691 teachers; for higher education, 27 universities, colleges, and professional schools with 11,506 students under 696 professors and instructors.

In 1927 the assessed valuation of property subject to the general property tax was \$2,992,765,959; state receipts, \$30,570,864; expenditures, \$29,583,752; net state debt, \$2,503,153; aggregate debts of counties, cities and minor civil divisions, \$42,774,000.

One of America's greatest places of historic interest is located in Kentucky, for here still stands the log cabin in which was born Abraham Lincoln. Part of the farm also remains.

The governor is elected for a term of four years and receives a salary of \$6,500 per annum. Legislative sessions are held biennially, and are limited to 60 days each. The Legislature has 38 members in the Senate and 100 in the House, each of whom receives \$10 per day and mileage. There are 11 representatives in Congress.

With the earliest history of Kentucky is associated the name of Daniel Boone, whose exploits in hunting and Indian fighting in the then distant and unexplored wilderness dates as far back as 1769. He founded Boonesborough in 1775, and Harrodsburg being settled about the same time, these two towns are, with the exception of the French settlements, the oldest in the West. Soon after Kentucky was made a county of Virginia, and the first court held at Harrodsburg in 1777. In 1790 Kentucky became a separate territory, and in 1792 was admitted into the Union. Since then, with the exception of the Civil War, its progress has been very rapid.

Kentucky, University of, a co-educational, non-sectarian institution in Lexington, Ky.; chartered in 1865.

Kenya. See EAST AFRICAN PROTECTORATE.

Kenyon College, an educational institution in Gambier, O.; founded in 1825, by the Protestant Episcopal Church; has property valued at over \$1,200,000; average faculty, 22; average student attendance, 256.

Kepler, or Keppler, Johann, a German astronomer; born in Weil der Stadt, Wurtemberg, Dec. 27, 1571. He studied at the University of Tubingen, applying himself chiefly to mathematics and astronomy. In 1593 he was appointed Professor of Mathematics at Gratz, and about 1596 began a correspondence with Tycho Brahe, which resulted in his going to Prague in 1599 to aid Tycho in his work. Tycho obtained for him a government appointment, but the salary was not paid, and Kepler lived for 11 years there in great poverty. He then obtained a mathematical appointment at Linz, and 15 years afterward was removed to the University of Rostock. In his "Mystery" he proclaims that five kinds of regular polyhedral bodies govern the five planetary orbits. Yet after publication he became convinced that this theory was only an error. After 22 years of patient study he was able to announce in his "Harmonies of the World" (1619) that the "square of a planet's periodic time is proportional to the cube of its mean distance from the sun." This rule is known as Kepler's Third Law. He says clearly enough that it implies that the planets are moved by a force greater near the sun, and lessening with distance. Finding the theory of epicycles unable to bear the strain of Tycho Brahe's accurate observations, especially in the case of the planet Mars, he endeavored to find a law for the planet's movements which would be simple and satisfactory. After enormous labor, and by a process of trial and error, he found that (1) the planet's orbit was an ellipse, of which the sun is in one focus, and (2) that, as the planet describes its orbit, its radius vector traverses equal areas in equal times. These rules (published in 1609 in his work on "The Motions of Mars") are known as Kepler's First and Second Laws respectively. These laws formed the ground-work of Newton's discoveries, and are the starting-point of modern astronomy. He died in Ratisbon, Nov. 15, 1630.

Keratry, Count Emile de, a French politician and author; born in Paris, France, March 20, 1832; served as a volunteer in the Crimean War; as a French guerrilla in Mexico (1863-1865). During the war of 1870 as General of Division, he organized over 50 battalions in Brittany. He was prefect of Toulouse and of Marseilles (1871-1872). Died in 1904.

Kerguelen's Land, or Desolation Island, an island of volcanic origin, in the Antarctic Ocean. The island was discovered in 1772 by a Breton sailor, Kerguelen-Tremarec, and was visited by Captain Cook, who christened it Desolation Island. It was visited in 1874 by American, English and German expeditions to observe the transit of Venus.

Kerki, a town belonging formerly to Bokhara, Central Asia, about 120 miles S. of Bokhara city, on the left bank of the Amu-Daria or Oxus. An important place both commercially and strategically, it is the halting place of the caravans trading from Bokhara to Herat. The fortress is garrisoned by Russian troops.

Kermadec Islands, a group of volcanic islands in the Pacific Ocean, 700 miles N. E. of Auckland, New Zealand.

Kerman, or Karman (ancient Carmania), one of the E. provinces of Persia, S. of Khorasan, and having an area of about 59,000 square miles. The N. and N. E. are occupied by a frightful salt waste called the Desert of Kerman, which forms a part of the great central desert of Iran. The S. portion, although mountainous, is equally arid and barren with the N., except the small tract of Nurmanshir, toward the E., which is fertile and well watered. Inhabitants chiefly Persians.

Kernan, Francis J., an American military officer; born in Jacksonville, Fla., Oct. 19, 1859; was graduated at the U. S. Military Academy in 1881, and assigned to the infantry. He served with the first Philippine expedition; was a judge-advocate in Cuba; went again to the Philippines in 1900 and 1909, and to Cuba in 1906; was graduated at the Army War College in 1914; and was promoted to Major-General in March, 1917. He is best known as the officer who introduced machine guns in the army.

Kersey, a variety of woolen cloth, differing from ordinary broadcloth by being woven as a twill.

Kertch, a seaport in Russia, on the Strait of Kaffa, or Yenikale, and previous to 1855 the most important port of the Crimea. It has had an eventful history. The town occupies the site of the ancient Panticapæum, the seat of the Bosphorian kings and once the residence of Mithridates. It was later occupied by the Byzantine empire, and was turned over to Russia in 1774. Pop. (1926) 55,883.

Kesora, the female idol adored in the temple of Juggernaut. Its head and body are of sandalwood, its eyes two diamonds, and a third diamond is suspended round its neck; its hands are made entirely of small pearls; its bracelets are of pearls and rubies, and its robe is cloth of gold.

Kestrel, a raptorial bird feeding on mice, insects, etc. The kestrel when hunting for prey suspends itself in the air by a constant motion of its wings.

Kettell, Samuel, an American writer; born in Newburyport, Mass., Aug. 5, 1800; died in Malden, Mass., Dec. 3, 1855.

Kettle, Mary Rosa Stuart, pseudonym Rosa Mackenzie Kettle, an English novelist; born in Overseale, Leicestershire, England. She became popular through her stories of Cornwall and the South Coast.

Kettle Drum, a musical instrument, so named from its resemblance to a hemispherical kettle.

Keuka College, a coeducational institution in Keuka Park, N. Y.; founded in 1892 under the auspices of the Free Baptist Church.

Kew Observatory, an astronomical station in England. It was built by George III. as a private enterprise for the observation of the transit of Venus in 1769 and was then called the King's Observatory. It is now principally used as an institution for examining and testing meteorological and magnetic instruments, and for taking daily photographs of the sun.

Key, Francis Scott, an American poet; born in Frederick co., Md., Aug. 9, 1780. He was a lawyer by profession. Being detained on one of the British ships during the bombardment of Fort McHenry, Sept. 14,

1814, he composed the words of "The Star-Spangled Banner." He died in Baltimore, Md., Jan. 11, 1843.

Keyes, Emerson Willard, an American financier; born in Jamestown, N. Y., June 30, 1828; was graduated from State Normal School, Albany, 1848; was teacher for several years; became superintendent of public instruction and was deputy superintendent of the banking department of the State of New York from 1865 to 1870, and exercised great influence on the organization of the National banking system. He died in Brooklyn, N. Y., Oct. 17, 1897.

Keyes, Erasmus Darwin, an American military officer; born in Brimfield, Mass., May 29, 1810; was graduated at the United States Military Academy in 1832; served in the Civil War, winning distinction at Fair Oaks and in other actions; promoted Major-General of volunteers May 5, 1862, and on May 31 of that year was brevetted Brigadier-General U. S. A.; resigned in 1864 and settled in California. He died in Nice, France, Oct. 11, 1895.

Keystone, in masonry, the central voussoir at the vertex of an arch. The row or course of said stones along the crown of an arch is the key-course.

Keystone State, an appellation bestowed on Pennsylvania, because it was the seventh, or central, one of the original 13 States.

Key West, a city and county-seat of Monroe co., Fla.; on the Gulf of Mexico. It is also a port of entry and a noteworthy United States naval station. The city is built on an island of the same name, 7 miles long by 1 to 2 wide, of coral formation, elevated only 11 feet above the sea, and covered with a thin layer of soil on which tropical fruits are successfully cultivated. Key West has an excellent harbor. During the Spanish-American war the city was the rendezvous of the United States navy. Pop. (1930) 12,831.

Khaki, an earthy or gray clay color, now largely used to dye the uniform of Indian soldiers and sepoy. The word was given to the service uniform of the American army in the war with Spain and in the operations in the Philippines because of the color.

Khan, an Asiatic governor; a king, a prince, a chief.

Kharkov, the capital of the Russian province of Kharkov, 465 miles S. by W. of Moscow. It is the seat of a university which was a center of the Nihilist movement previous to the assassination of Alexander II. in 1881. Pop. town (1926) 284,436; province, area, 21,041 square miles, pop. (Est.) 3,500,000.

Khartum, a town in the Eastern Sudan, on the left bank of the Blue Nile, near its junction with the White Nile. It was the scene of Gordon's heroic defense against the insurgent Sudanese, and of his death in January, 1885. It was taken and held by the Mahdi and his successor till September, 1898, when it was recaptured. Pop. (Est.) 70,000, with suburbs.

Khaya, one of the most abundant forest trees in Senegal, Africa. It attains a height of 80 or 100 feet, and is much valued for its timber, called African mahogany, which is reddish colored, very hard, durable, and of beautiful grain.

Khedive, the official title of the ruler of Egypt; a rank superior to viceroy, but inferior to an independent monarch.

Khiva, a semi-independent khanate of Central Asia, forming part of Turkestan. A great part of the surface consists of deserts. Pop. (1914) est. 646,000. Khiva, the capital, lies 50 miles W. of the Amu. Pop. (1928 Est.) 4,500.

Kholm, a town of Russian Poland, 45 miles E. S. E. of Lublin, 50 miles N. of Austrian Galicia, 10 miles W. of the Bug river. It is one of Poland's oldest cities, and was a victim of the World War. Pop. about 22,000.

Khorasan, a province of Persia, bordering on Afghanistan; area 140,000 square miles; pop. (1908) est. 860,000. Much of the surface consists of deserts.

Khyber Pass, a military road between the Punjab and Afghanistan, winding in a N. W. direction for 33 miles between two ranges of hills from 1,400 to 3,000 feet high. The pass is merely the bed of a narrow watercourse. It has been the key of the adjacent regions in either direction from the days of Alexander the Great.

Kiang-si. See CHIANG-HSI.

Kiang-su. See CHIANG-SU.

Kiao-chau, a seaport city of Shantung, China, leased to Germany in 1898, for 99 years. On Aug. 15, 1914, Japan sent an ultimatum to Germany demanding the withdrawal of German ships from Eastern waters and the surrender of Kiao-chau, and, failing to receive satisfaction, declared war. Japan began a siege of the fort on Sept. 30, and forced its surrender on Nov. 7.

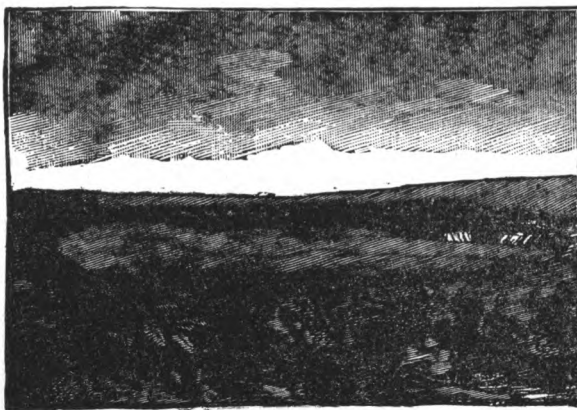
Kidd, William, an American pirate; born probably in Greenock, Scotland. A ship of 30 guns was fitted out by a private company in London, was given to Kidd, who was to seize pirates. In January, 1697, he reached Madagascar, but ere long reports reached England that Captain Kidd was playing the game of pirate himself. After a two-years' cruise he returned to the West Indies, and a few months later went to Boston. He was arrested and sent to England, where he was tried for piracy and murder. Of the latter charge he was found guilty, and hanged May 24, 1701. He had buried a store of treasure

April 16, 1804; became an antiquarian of authority. He died in Melrose, Mass., Dec. 19, 1885.

Kidneys, the secreting organs of the urine, two in number, situated in the lumbar region on each side of the spine which they approach on their upper extremities.

Kief, or **Kiev**, one of the oldest towns of Russia, and ecclesiastically one of the most important; on the Dnieper. According to tradition it was founded before the Christian era. In 882 it was made the capital of the Russian principality, and remained so until 1169. Here in 988 Christianity was first preached in Russia by St. Vladimir. The town was captured and nearly destroyed by the Mongols in 1240 and it remained in their hands for 80 years. From 1320 to 1569 it was in the possession of Lithuania, then of Poland down to 1654, in which year it was annexed to Russia. The town is built on elevated ground. The most notable institution in the town is the Petchersk monastery, which is visited by more than 250,000 pilgrims annually. The cathedral of St. Sophia, erected in 1037, contains the tombs of the grand-dukes of Russia. Altogether Kief has nearly 70 churches, many of them with gilded domes and pinnacles, which, seen from a distance, give the city a striking appearance. Pop. (1927) 513,789.

Kiel, a town of the Prussian province of Schleswig-Holstein; 66 miles from Hamburg, situated on a bay of the Baltic. It is the headquarters of the German Baltic Sea navy. The old town, dating from before the 10th century, has been enlarged by the suburbs of Brunswick and Dusterbrook; the latter has beautiful promenades. Pop.



CRATER OF KILAUEA.

on Gardiner's Island, off Long Island, which was recovered; other treasure buried by him has not been found.

Kidder, Frederic, an American author; born in New Ipswich, N. H.,

the German Baltic Sea navy. The old town, dating from before the 10th century, has been enlarged by the suburbs of Brunswick and Dusterbrook; the latter has beautiful promenades. Pop.

(1925) 213,587. Here the German High Sea Fleet was practically locked up by the Grand British Fleet in the World War.

Kielce, a town, Republic of Poland, capital of the government of the same name; 125 miles by rail S. of Warsaw, in a picturesque hilly country. The squares and boulevards are lined with handsome modern buildings, and the town has hemp-spinning, cotton printing and cement works. Area, 3,897 square miles, pop. (1914) 1,029,800; town, pop. (1923) 41,357; both were victims of the World War.

Kilkenny, the capital of the Irish county of that name. Several Parliaments were held at Kilkenny in the 14th century, and even down to Henry VIII. It was the residence of the lord-lieutenant. The fable of the "Kilkenny cats," which fought till nothing but the tails were left, was a satire on the contentions of Kilkenny and Irish-town in the 17th century about boundaries and rights.

Killarney, a small town in the county of Kerry, Ireland. Its importance depends on the crowds of tourists who come to visit the famous lakes.

Killarney, Lakes of, a series of three connected sheets of water. These famous lakes are situated in a basin in the midst of the mountains of Kerry.

Killdee, or **Killdeer**, a small American bird akin to the plover.

Killer Whale, one of the dolphins, from 18 to 30 feet long. The mouth has 11 or 12 powerful, conical, slightly recurved teeth in each jaw. Its fierceness and voracity constitute it the terror of the ocean.

Kilpatrick, Hugh Judson, an American military officer; born in Deckerton, N. J., Jan. 14, 1836. He was graduated at West Point in 1861. He served through the Civil War with credit. Minister to Chile from 1865 to 1870; he was reappointed in 1881, and died in Valparaiso, Dec. 4, 1881.

Kimball, Richard Burleigh, an American author; born in Plainfield, N. H., Oct. 11, 1816; was graduated at Dartmouth College in 1834 and later admitted to the bar. He died in New York city Dec. 28, 1892.

Kimball, Sumner Increase, an American executive; born in Lebanon, Me., Sept. 2, 1834; was chief of the Revenue Marine Service and of the Life-Saving Service in 1871-8; general superintendent U. S. Life-Saving Service, 1878-1916, when retired.

Kimberley, capital and chief town of Griqualand West, South Africa. It owes its existence to the diamond mines, the working of which dates from July, 1871. In 1903, \$26,205,869 worth of diamonds were mined here; profit, \$11,511,490. In 1899-1900, until relieved by Gen. French, the town for 122 days, successfully resisted a Boer siege. Pop. (1921) 39,320.

Kin-chau, or **Kinchow**, a fortified hill-town of Manchuria, near Dalny; occupied by the Japanese, after a stubborn resistance of the Russians, May 26, 1904.

Kindergarten, a system of education for infants and young children devised by Frederick Fröbel (1782-1852), by whom, in conjunction with Ronge, it was first carried out at Hamburg in 1849. In 1858 Ronge published a work on the subject. Knowledge is imparted in an attractive form, chiefly by simple object lessons. The kindergarten system is becoming increasingly popular in the United States, and is now a part of the public school system in all large cities.

Kinetograph, an apparatus for taking pictures of moving objects in their changing positions. It was invented by Edison.

Kineto-phonograph, an apparatus combining the principles of the kinetograph, the vitascope, and the phonograph, invented by Thomas A. Edison. The kineto-phonograph is such that a man can sit in his own parlor and see reproduced on a screen the forms of the players in an opera produced on a distant stage, and, as he sees their movements, he will hear the sound of their voices.

Kinetoscope, an apparatus invented by Thomas A. Edison for exhibiting the pictures taken by the kinetograph. The kinetoscope displays the pictures to the eye so rapidly that they all seem like one scene.

King, Charles, an American soldier and novelist; born in Albany, N. Y., Oct. 12, 1844. He resigned from

King

the United States army in 1879, becoming Professor of Military Science and Tactics at the University of Wisconsin. On the outbreak of the war with Spain he was commissioned a Brigadier-General of volunteers and went to the Philippines. He wrote a long series of novels treating of army and frontier life and people.

King, Clarence, an American geologist; born in Newport, R. I., Jan. 6, 1842; died in Arizona, Dec. 24, 1901.

King, Edward, an American writer; born in Middlefield, Mass., in 1848. He died in Brooklyn, N. Y., in 1896.

King, Grace Elizabeth, an American writer; born in Louisiana in 1859. She is one of the most prominent of Southern writers, and her books deal with Southern subjects.

King, Horatio, an American statesman; born in Paris, Me., June 21, 1811; learned the printer's trade; was appointed clerk in the postoffice department in Washington and became Postmaster-General; was the first man in public office to deny the power of a State to withdraw from the Union. He died in Washington, D. C., May 20, 1897.

King, Rufus, an American statesman; born in Scarboro, Me., March 24, 1755. He was a student at Harvard College in 1773, was admitted to the bar in 1778; elected to Congress; elected to the United States Senate three times and was appointed twice as minister to England. He was the Federalist candidate for the vice-presidency in 1804 and 1808. He died in Jamaica, Long Island, N. Y., April 29, 1827.

King, Thomas-Starr, an American clergyman; born in New York city, Dec. 17, 1824. During the Civil War he was the chief factor in raising the large sums of money which enabled the United States Sanitary Commission to carry on its work. He died March 4, 1864.

King, William Lyon MacKenzie, Canadian statesman; born at Kitchener (Berlin) Ont., Dec. 17, 1874. Educated at Toronto Univ., Univ. of Chicago, and Harvard. Entered Canadian public service in 1900 as Deputy Minister of Labour. Held

King of the Herrings

chairmanship of several Royal Commissions. Entered Parliament in 1908. In 1908 was Minister of Labour; in 1909 became Prime Minister of Canada.

King, William Rufus, an American statesman; born in Sampson co., N. C., April 6, 1786. He was United States Senator from that State; minister to France; presiding officer in the United States Senate. In 1852 he was elected Vice-President of the United States, and died near Cahawba, Ala., April 18, 1853.

Kingbird, a name given to a shrike of the United States. Named from an erectile orange-colored crest on the head, which has been compared to a diadem; as also from the tyrannical character of the bird.

Kingfisher, an insectorial bird; the American species of a bluish-slate color, and crested; the common European kingfisher, dark-green in color, spotted with blue. It is about 7 inches long. It perches on trees along river banks, and dives for fish, which it seizes with its feet, carries to land, and swallows entire. The spotted kingfisher is a native of the Himalayas where it is called the fish-tiger.

King George's War, the American portion of the War of the Austrian Succession (1740-48). The colonies raised a force of 4,000 men, and 100 ships, and with a small English squadron, captured Louisburg, after 7 weeks siege. For 3 years there was desultory fighting. The small gains made from the French, were restored by the Treaty of Aix-la-Chapelle (1748).

Kinglake, Alexander William, English historian; born 1811; died 1891. He was educated at Eton and Cambridge; became a lawyer; and in 1844 acquired celebrity by "Eöthen," a brilliant narrative of Oriental travel. His magnum opus "Invasion of the Crimea" (8 vols.) is a magnificent record of the war. He sat in Parliament as member for Bridgewater 1857 to 1868; in 1860 was an opponent of the annexation of Savoy and Nice.

King of the Herrings, the popular name given to the Northern or Arctic chimæra, a fish also known in certain localities by the name of sea cat. It varies from three to four feet in length. The Southern chimæra is

distinguished by having a curious hoe-like appendage attached to the snout.

King Philip's War, a conflict between the New England colonists and the confederated Indian tribes, the Narragansetts, the Wampanoags, and the Nipmucks, carried on in 1675-1676. The Indians were led by Philip, a chief, who was killed at Mount Hope, R. I. Of the 90 towns of the colonists 12 were utterly destroyed, while more than 40 others suffered from fire and pillage. More than 1,000 men were killed and many women and children. The Indians were annihilated, King Philip being killed by treachery, and his family sold into slavery. See PHILIP.

Kings, a name of two books of the Old Testament, relating the history of the Hebrew monarchy (united and divided) from the proclamations of Solomon, a little before the death of David, to the death of Jehoiachin—a period not less than 431, and perhaps more than 453 years. In Hebrew, the two Books of Kings were originally one volume: the Septuagint divided them, calling them the third and fourth of the Kingdoms, and the Vulgate the third and fourth of the Kings. Next, Bomberg separated the Hebrew book into two, after the Greek model. The division is clumsily made in the middle of Ahaziah's reign, and with no important break in the historic narrative. The work contemplates events from the prophetic, as the books of Chronicles do from the priestly, point of view. The former gives prominence to the history of the Ten Tribes, among which most of the prophets labored; the latter to that of the Two Tribes, among whom the priests found their home. The chronology is difficult, the Hebrew figures being represented by letters, a small change in the form of which would greatly alter results. It agrees, however, well with the Egyptian, and would not require much alteration to adjust it to the Assyrian chronology. Keen study of the Books of Kings is needful to the comprehension of the Old Testament prophetic writings, which in their turn reflect great light on the historic narratives in Kings. Recent archaeological researches have afforded much confirmatory evidence in favor of the sacred narrative.

King's College, an institution adjoining Somerset House in London, founded by royal charter in 1828, and confirmed by act of Parliament in 1882.



INTERIOR OF KING'S COLLEGE.

King's Daughters and Sons, **International Order of the**, a society composed of men, women, and children of all religious denominations, pledged to practice the golden rule. The universal membership is over 500,000. "The Silver Cross," its weekly organ, is published in New York.

King's Evil, an old name for scrofula, which was believed to be cured by the royal touch.

Kingsley, Charles, an English author; born June 13, 1819; died Jan. 23, 1875. Kingsley became Professor of Modern History at Cambridge in 1859, canon of Westminster in 1873. His best-known works are "Westward Ho;" and "Hypatia."

Kingsley, Henry, an English novelist; brother of Charles; born Jan. 2, 1830; died May 24, 1876. A humorous strain in his writings contrasts with his brother's work. Among his works are "Geoffrey Hamlyn;" "Ravenshoe;" "Fireside Studies;" etc.

King's Mountain, an eminence in York co., S. C., 80 miles N. W. of Columbia, where a battle took place Oct. 7, 1780, between the Americans and the British, who were defeated.

Kingston, city and capital of Ulster county, N. Y.; on the Hudson river, the Hudson & Delaware canal, and several railroads; 90 miles N. of New York city; comprises the former villages of Kingston, Rondout, and Wilbur; has a large river commerce and trade in brick, coal, lime, cement, lumber and bluestone; was chartered as Wiltwick in 1661; the first State Constitution was proclaimed here, the Legislature met here, and the town was burned, all in 1777. Pop. (1930) 28,088.

Kingston, city, port of entry, and capital of Frontenac county, Ontario, Canada; on Lake Ontario, at the head of the St. Lawrence river, and on the Grand Trunk and other railroads; 165 miles E. of Toronto; is in a section containing iron, phosphate, mica, feldspar, and graphite; has large lake and river commerce and important manufactures; is the see of a Roman Catholic archbishop and an Anglican bishop; and is the seat of Queen's University, Royal Military College, Mining, Artillery, and Dairy schools, Provincial penitentiary, and Frontenac and Victoria parks. Pop. (1930 Est.) 28,482.

Kingston, the commercial capital of Jamaica; on the N. side of a landlocked harbor, one of the best in the world. It was founded in 1693, after its predecessor Port Royal was destroyed by an earthquake. It suffered from fire 1882, hurricane 1903, and Jan. 14, 1907, by an earthquake. Pop. (1921) 62,562.

Kingston-on-Hull, an important and flourishing English river-port; in a low, level plain on the Humber, here 2 miles wide, and joined by the Hull. Pop. (1921) 287,013. The docks and basins, comprising an area of upward of 200 acres, have been constructed since 1774. Hull is chief entrepot for German and Scandinavian trade.

King William's War, a war waged by Great Britain and its colonies in America against France and its Indian allies in 1689-1697.

E-45.

Kinkajou, a genus of carnivorous mammals. They have prehensile tails, with which they hang on to trees.



KINKAJOU.

They have some affinity to the le-murs, of which they are the partial representatives in the New World, where they occur in South America and in Mexico. The best known species is about a foot long, with a tail of 18 inches. It feeds upon fruit, insects, and birds.

Kinnikinic, or **Killikinic**, a mixture of the leaves of the sumac and willow which were dried and then finely pulverized, and a little tobacco added, and smoked by the North American Indians. The name is now given to a brand of manufactured tobacco.

Kinsale, a seaport, fishing town, and summer resort of Ireland, on an estuary of the Bandon river, 13 miles S. S. W. of Cork. It was near the Old Head of Kinsale that the Cunard Line steamship "Lusitania" was sunk without warning by a German torpedo on May 7, 1915.

Kioto, for over 1,000 years the capital of Japan; situated on a flat plain about 26 miles inland from Osaka. A high range of hills to the E. separates this plain from Lake Biwa, and on these some of the finest temples connected with the city are built. Pop. (1922) 591,323.

Kiowan, a linguistic stock of North American Indians of which but one tribe, the Kiowa, remains. They lived near the head waters of the Upper Platte and were very aggressive.

Kip, **William Ingraham**, an American clergyman; born in New York city, Oct. 3, 1811; was graduated at Yale College in 1831, and later at

the General Theological Seminary; ordained in the Protestant Episcopal Church in 1835, and elected Bishop of California in 1857. He died in San Francisco, Cal., April 7, 1893.

Kipling, Rudyard, an English author; born in Bombay, Dec. 30, 1865. He was educated in England, and in 1882 went to India. As a journalist there, he wrote short stories and poems, descriptive of Anglo-Indian military and civil life, which attracted widespread attention. His later work ranks him among the leading authors of the day. From 1896-98 he lived in Vermont.

Kirby, William, a Canadian author; born in Kingston-upon-Hull, England, Oct. 3, 1817; removed to Canada in 1832; was educated in Cincinnati, O.; and in 1839 removed to Niagara, Ont., where he was editor of the "Mail" for 20 years. D. 1906.

Kirchhoff, Theodor, a German-American poet; born in Utersen, Jan. 8, 1828. Residing in the United States, he wrote in German and published in Germany.

Kirghiz, a nomadic Mongol-Tartar race, numbering in its various branches about 3,000,000, and inhabiting the steppes that extend from the lower Volga and the Caspian Sea in the W. to the Altai and Thian-Shan Mountains in the E., and from the Sea of Aral and the Syr Daria in the S. to the Tobol and Irtysh on the N. The Kirghiz are a slow, sullen people. They dwell in semi-circular tents, the wooden framework of which is covered with cloth or felt. They profess Mohammedanism.

Kirk, Ellen Warner Olney, an American author; born in Southington, Conn., Nov. 6, 1842; daughter of Jesse Olney; educated in Stratford, Conn.; married John Foster Kirk in 1879. Pen name "Henry Hayes."

Kirk, John Foster, an American author; born in Frederickton, N. B., March 22, 1824; received an academic education in Halifax, N. S., came to the United States in 1842 and settled in Boston. He removed to Philadelphia, in 1870, where he was editor of "Lippincott's Magazine." D. 1904.

Kirkland, Caroline Matilda Stansbury, an American author; born in New York city, Jan. 12, 1801;

settled in Clinton, N. Y., where she married William Kirkland. She died in New York city, April 6, 1864.

Kirkland, John Thornton, an American clergyman; born in Herkimer, N. Y., Aug. 17, 1770; was graduated at Harvard College in 1789. He was ordained and installed minister in the New South (Unitarian) Church in 1794, remaining there until 1810, when he was elected president of Harvard College. He died in Boston, Mass., April 24, 1840.

Kirkland, Joseph, an American author; born in Geneva, N. Y., Jan. 7, 1830; received a common school education; removed to Chicago, Ill., in 1853; served in the Union army in the Civil War. After the war he engaged in mining, law practice, and later in literary work. He died in Chicago, Ill., April 29, 1894.

Kishineff, capital of the Rumanian province of Bessarabia, on a tributary of the Dniester. The old or lower town abuts upon the river; the new town stands on cliffs between 400 and 500 feet above the river. Kishineff is an important trading center for Bessarabian native products. It is the seat of an archbishop. Pop. (1927 Est.) 150,000. A massacre of the Jews at this place in 1903 incited by the false report that Hebrews had murdered a Christian boy excited general indignation outside of Russia, the city being in Russia until 1919.

Kishon, a river in Palestine. Here Elijah slaughtered the priests of Baal, and Deborah and Barak defeated Sisera.

Kissingen, a watering-place of Bavaria, Germany, on the Saale, 30 miles N. of Wurzburg. The springs, five in number, and all saline, contain a large quantity of carbonic acid gas, and are used both internally and as baths.

Kitchener, Horatio Herbert, Viscount and Baron Kitchener of Khartum, a British military officer; eldest son of Lieutenant-Colonel H. H. Kitchener of the 13th Dragoons; born in June, 1850. He was educated at the Royal Military Academy, Woolwich. In 1874-1878 he was engaged on the survey of Palestine under the auspices of the Palestine Exploration Fund Commit-

tee. In 1889 he was in command of mounted troops on the Sudan frontier. From 1888 till 1892 he was adjutant-general and second in command of the Egyptian army, and in 1892 he became Sirdar. He commanded the Anglo-Egyptian force which recovered Dongola for Egypt in 1896. Soon afterward he led another expeditionary force up the Nile valley. He was appointed governor-general and commander-in-chief of the Egyptian Sudan in 1899, but he resigned this post to accompany Lord Roberts to South Africa as chief of his staff in the war with the Boers. When Lord Roberts left South Africa toward the end of 1900 Lord Kitchener succeeded him as commander-in-chief. On the termination of the war in 1902, Lord Kitchener was created a viscount by King Edward, voted a grant of \$250,000 by Parliament, promoted to general, awarded the decoration of the newly-established Order of Merit, and given an official reception. In 1902-9 he was commander-in-chief in India; 1911-14 was British Agent and Consul-General in Egypt; 1914 was appointed Secretary of State for War and created Earl of Khartum. At the outbreak of the World War in 1914 he foresaw a long and bitter struggle and bent all his marvelous energies to the work of preparation. As a part of the latter he embarked with a considerable staff on the British cruiser "Hampshire" on a mission to Russia, and on June 5, 1916, when off the Orkney Islands the ship was sunk by a German mine or torpedo, and all on board were lost.

Kite, a name applied to very active long-winged, small-footed Falconidae with rather short beaks, never truly notched like those of falcons.

Kittatinny Mountains, sometimes called the Blue Mountains, an extensive range of mountains in the United States, which can be traced with but slight breaks from Ulster co., N. Y., through New Jersey, Pennsylvania, Maryland, Virginia, North Carolina and Georgia, into Alabama. They are over 800 miles in length, with an elevation of 800 to 2,500 feet.

Kitto, John, English biblical scholar; born 1804; died 1854. Of poor parentage, and scanty education,

his literary aptitude however, was manifested early and after missionary work at Malta and Bagdad, the rest of his life was spent in literary work. Among his works are: "The Pictorial Bible;" "Pictorial History of Palestine;" "Cyclopædia of Biblical Literature."

Kitt's St. See CHRISTOPHER, ST.

Kiu-Kiang, a seaport of China, province Kiangsi, on the S. bank of the Yang-tse-kiang. It derives importance from the green-tea trade. The port was opened to foreign trade in 1862. Pop. (1920 Est.) 40,000.

Kiu-Siu, one of the three principal islands of Japan.

Kiwi-kiwi. See APTERYX.

Klamath, a tribe of North American Indians, settled on a reservation at Klamath Lake, Ore.

Klamath Lake, a body of water in Oregon, at the E. base of the Cascade Range; overlaps the S. boundary of the State into California. The lake is about 44 miles long by 6 to 14 miles wide. It consists of two considerable bodies of water, connected by a narrow strait less than 2 miles wide. Klamath river is the outlet.

Klausthal, the chief mining town of the Northern Harz mountains, Germany; on a bleak plateau (1,985 feet), 25 miles N. E. of Gottingen. The ores mined are silver, lead, copper and zinc. The mines are the property of the Prussian government, and one is 2,000 feet below the level of the Baltic. Pop. (Est.) 10,000.

Kleenebok, a pigmy antelope, found at the Cape of Good Hope. It is about a foot high at the shoulder, with small erect black horns, somewhat approaching at the tips.

Kleptomania, a supposed species of insanity manifesting itself in a desire to pilfer.

Klipspringer, a species of antelope, about equal in size to the chamois, and resembling it in habits, found in the highest mountain districts of South Africa.

Klondike, The, a river which enters the Yukon, the principal river of the Northwest Territory, Canada. The word is now applied to the re-

gion surrounding the Klondike river and its tributaries, and which lies in the Yukon district of the Territory, about midway of and just across the boundary line between Alaska and the British possessions.

As early as 1862 gold was discovered in Alaska, but no especial notice was taken of it. In 1880, Juneau, a Frenchman, with a companion started out from Sitka and traveling N. discovered gold in a creek which they named Gold creek, and at the mouth of this creek founded a town first called Harrisburg and later Juneau, and which soon became the center of mining supplies and a considerable fur trade. In 1886 a rich find was reported on Stewart river, in the Yukon district, and the following year an expedition was sent out by the Canadian government, headed by George M. Dawson, which explored the Upper Yukon and reported the existence of an abundance of gold. It was not till 1897 that the wonderful riches of the Klondike region were made known through George McCormick, who went from Illinois to Alaska in 1890. In 1897 he located at the mouth of the Klondike river for the purpose of salmon fishing, but this not proving profitable, he in company with some Indians moved up the river till they came to Bonanza creek, which they began to explore for gold. They found large quantities of paying dust and located an extensive claim. Going to the Indian village from which they came for supplies, the news of their find quickly spread, other claims were forsaken, some of the prosperous towns were deserted and the miners from every direction poured into the newly found gold fields. Joseph Ladue, an old prospector and well-known miner, was one of the first to explore the country, and his statements gave an impetus to the steadily increasing stream of gold hunters. Clarence Berry, a miner, returned to Juneau in the fall of 1897 on his way home to San Francisco with \$130,000 in dust which had been thawed and sluiced out of 30 box lengths of soil in a few weeks' time. And this is but one of many similar experiences, which aroused the wildest excitement all over the United States, with which the Californian "gold fever" of 1849 stands no comparison. All through

the fall and winter of 1897 the mad rush for the Klondike continued, and the towns of Juneau, Dyea and Skagway, together with Dawson City (q. v.), sprang into prominence.

Productive mining in Alaska began in 1880, when the Juneau gold placers were first exploited, and in 1916 it was estimated that mineral wealth had been produced to the amount of \$300,000,000. The greatest year's output of gold was in 1906, when the production was valued at \$22,036,794. The output of the Yukon Basin in 1883-1915 was \$106,423,169. Within two months after the discovery of gold in the Klondike district, the output was \$5,000,000, and in 1898-1910 it aggregated \$150,000,000.

Klopsch, Louis, philanthropist, editor; originator of the "Red Letter Bible"; born in Germany in 1852. As proprietor of "The Christian Herald" he has initiated and personally superintended some of the greatest international charities of modern times. His activity in that direction has embraced parts of the United States in seasons of distress, and Armenia, India, Cuba, Porto Rico, Norway, Russia, China and other regions. With the generous aid of readers of "The Christian Herald" he is now supporting and educating fifty-four hundred orphans in India. He was honored with an official appointment by President McKinley in 1898, and has been received in personal audience by the leading European monarchs. King Edward conferred on him the Kaiser-I-Hind medal in 1904. In 1905-06 he raised over \$200,000 for relief in Japan and received from Pres. Roosevelt a message of appreciation. Died March 7, 1910.

Klopstock, Friedrich Gottlieb, a celebrated German poet; born at Quedlinburg in 1724; died in 1803. He studied theology at Jena, and while a private tutor commenced his sacred epic "The Messiah." The three first cantos appearing in 1748.

Knapp, Martin Augustine, an American jurist; born in Spafford, N. Y., Nov. 6, 1843; admitted to the bar in 1869; member of the Interstate Commerce Commission in 1891-1910, and chairman in 1898-1910; justice of the United States Court of Commerce from Dec. 12, 1910.

Knee, the articulation between the femur or thigh bone, above, and the tibia or shin bone, below. A third bone, the patella, or knee cap, also enters into the structure of this joint.

Kneeland, Samuel, an American naturalist; born in Boston, Mass., Aug. 1, 1821. In 1866 he became Professor of Zoölogy and Physiology in the Massachusetts Institute of Technology. He was a member of numerous scientific societies, and contributed many articles to medical literature, etc. Died in 1886.

Kneipp, Sebastian, a German clergyman; born in Stefansried, May 17, 1821. He became a Roman Catholic priest in 1852. His attention was early drawn to the "water cure" which he advocated for years. This method was chiefly walking barefoot in dew-moistened grass. He died in Würshofen, June 17, 1897.

Kneph, the ram-headed god of ancient Egypt, called also Amen-ra, and by the Greeks, Ammon.

Knickerbocker, Herman Janzen, of Friesland, Holland; one of the earliest settlers of New York. A descendant, Johannes (1749-1827), was an intimate friend of Washington Irving, who immortalized the name by his "History of New York by Diedrich Knickerbocker" (1809).

Knight, a man admitted to a certain degree of military rank, with certain ceremonies or religious rites. Also one who holds a certain dignity conferred by the sovereign or his representative, and entitling the possessor to the title of Sir prefixed to his name. Wives of knights are entitled to the designation of Dame, but are more commonly addressed as Lady.

Knight, Albion Williamson, an American prelate; born in White Springs, Fla., Aug. 24, 1859, ordained Protestant Episcopal priest in 1883; stationed at Palatka and Jacksonville, Fla., till 1893; dean of cathedral, Atlanta, Ga., in 1893-1904; made bishop of Cuba, Dec. 21, 1904.

Knight, Jonathan, an American physician; born in Norwalk, Conn., Sept. 4, 1789. He was graduated at Yale College in 1808; studied at the medical school of the University of Pennsylvania 1811-1813. He ob-

tained in 1862 the establishment of a United States military hospital at New Haven. He died in 1864.

Knights of Columbus, a fraternal organization in the United States, founded in 1882; reported in 1916, State councils, 52; subordinate councils, 1,754; members, 368,135. Its membership in 1928 was given as 662,468.

Knights of the Golden Eagle, a fraternal organization in the United States, founded in 1878; reported in 1916, grand castles, 14; grand temples, 6; castles, 695; temples, 307; members, 74,063.

Knights of Labor, a national labor organization in the United States, founded in Philadelphia in 1869. The first general assembly was held in 1878; from this year the numbers rapidly increased, and the oaths of secrecy formerly administered were abolished soon after. In 1886 there were 730,000 members, and thereafter the membership decreased.

Knights of the Golden Circle, a secret society, organized in 1855 to succeed the Southern Rights Club, founded in 1834. Its object was to advance the interests of the South. In the early years of the Civil War, it spread rapidly north of the Ohio, and even attempted an armed demonstration, near Indianapolis in 1861, now known as the "Battle of Pogue's Run." The organization was broken up in 1863 through efforts of Gov. O. P. Morton. It had various successors.

Knights of the Maccabees, a benevolent association, founded in 1881, and numbering in the United States about 110,000.

Knights of Malta. See JOHN, KNIGHTS OF ST.

Knights of Pythias, a secret fraternal order organized at Washington, D. C., in 1864, and numbering in the United States and Canada over 722,000 members, with an endowment rank of over 70,000 members, insured for \$96,271,082.

Knights Templar, a degree or order of modern Freemasonry ranking in dignity above the Blue Lodge and the Royal Arch Chapter. The orders conferred in a commandery of Knights Templar are Red Cross, Knight Templar, and Knight of Malta.

Knitting. The art of knitting consists in the construction of a looped fabric in which for the first row a succession of loops are cast on or preferably knitted on to a needle, and in succeeding rows each loop is passed through the loop of each succeeding row. It differs distinctly from braiding, netting and weaving, which is, as here mentioned, perhaps the order of invention, knitting being centuries later than either of the others.

Knitting Machine, an apparatus for mechanically knitting jerseys, stockings, and other knitted goods.

Knort, a name given in Lapland to a species of sandfly, which is a greater pest than the mosquito. Its bite is painless, but on the second day swells to a large size, and burns exceedingly.

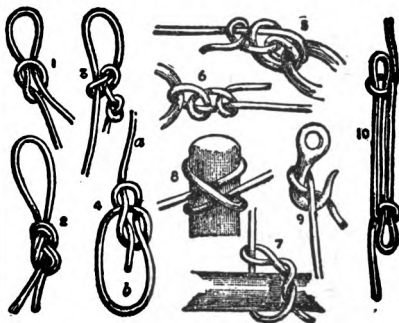
Knot, a nautical synonym for the geographical mile. The geographical mile is one-sixtieth of a mean degree of a meridian on the earth, and is therefore 6,080 feet or 1.1513 statute miles. The name is derived from the knots tied on a ship's log line.

Knot, a wading bird. It breeds within the Arctic circle, from which it migrates in autumn to the Eastern Hemisphere, as far even as the Cape and Australia.

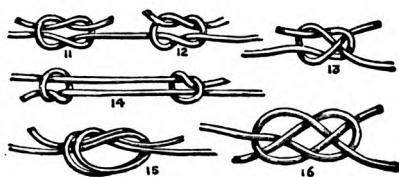
Knot Grass, a prostrate plant, or weed, with narrow leaves, and white, pink, crimson, or green inconspicuous flowers, clustered in the axils of various leaves. It is common in fields and waste places.

Knots and Splices include all the various methods of tying, fastening, and joining ropes or cords. From 150 to 200 different kinds of knots may be enumerated, mostly used on ship-board, though almost all occupations using ropes or cordage have special kinds of knots adapted to their different requirements. While the great majority of these are purely technical, there are a few so generally useful in the everyday occurrences of life that they may be shortly described. The figures represent the various knots before they are drawn taut, the better to show the method of tying. Generally, the requirements of a useful knot may be stated to be that it should neither "slip" nor "jam"—i. e. that, while it holds without danger of slipping while the strain is

on it, when slackened it should be easily untied again. The simplest knot is the common one tied on the end of a thread or cord to prevent it slipping. By passing a loop instead of the end of the cord the common slip knot (fig. 1) is formed; and a useful fixed loop is got by tying a simple knot, or the "figure of 8 knot" (2), on the loop of a cord. One of the



simplest and most useful running knots for a small cord is made by means of two simple knots (3). The most secure method of fastening a line to, say, a bucket is the standing bowline (4); and a running bowline is formed by passing the end a through the loop b, thus making a running loop. Another good knot to make fast a bucket is the anchor bend (5). Out of the score or so of methods of fastening a boat's painter the one which will be found most useful is the well-known two half-hitches (6). The timber hitch (7) is useful



for attaching a line to a spar or a stone, and the clove hitch (8) is invaluable for many purposes. It is very simple and cannot slip.

A simple method of fastening a

rope to a hook is the blackwall hitch (9), where the strain on the main rope jams the end so tightly against the hook that it cannot slip. There are many methods for shortening a rope temporarily, one of them being the sheepshank, the simplest form of which is shown in fig. 10.

Of the methods for uniting the ends of two cords the simplest and one of the most secure is the common reef knot (11), which must be carefully distinguished from the "granny" (12), which will jam if it does not slip; the reef knot will do neither. For very small cords or thread the



best knot is the weaver's (13). The fisherman's knot is a very useful one for anglers, and is formed by a simple knot in each cord being slipped over the other (14); when drawn taut it is very secure, and it is easily separated by pulling the short ends. A useful method of uniting large ropes is shown in figure 15: tie a simple knot on the end of one rope and interlace the end of the other, and draw taut. This tie may also be made with the figure of 8 knot. For very large ropes the carrick bend (16) is the simplest and most secure. The bowline bend is formed by looping two bowline knots into each other. For attaching a small line to a thick rope the becket hitch (17) is very useful.

"Splicing" is the process employed to join two ropes when it is not advisable to use a knot. The three chief varieties of the splice are the short splice, the long splice, and the eye splice. The short splice is made by unlaid the ends of two ropes for a short distance and fitting them closer together; then, by the help of a mar-

linspike, the ends are laced over and under the strands of the opposite rope, as shown in figure 18. When each strand has been passed through once, half of it is cut away and the remainder passed through again; half of the remainder being also cut away, it is passed a third time, and when all the strands are so treated, they are hauled taut and cut close. This reducing the thickness of the strands tapers off the splice. The long splice is employed when the rope is used to run through a block, as it does not thicken it. The ends of the two ropes are unlaid for a much longer distance than for the short splice, and similarly placed together. Then one strand is taken and further unwound for a considerable distance, and its vacant place filled up with the corresponding strand of the other rope, and the ends fastened as in the short splice. Other two of the strands are similarly spliced in the opposite direction, and the remaining two fastened at the original joining place. The eye splice is, as the term implies, used to form an eye, or round a dead eye, and is shown finished in figure 19.

To prevent a rope fraying at the ends a variety of methods are employed, the simplest being to serve or whip the end with small cord. Other methods are by interlacing the ends, one of which, the single wall, is shown at figure 20, the ends afterward being drawn taut and cut short.

Knownothing, a member of a secret political association in the United States, organized for the purpose of obtaining the repeal of the naturalization law, and of the law which permitted others than native Americans to hold office. It started in 1853 and lasted two or three years. A society was formed in 1855 in opposition to the above, called Know-somethings. Both bodies were absorbed into the two parties, Democrats and Republicans, at the presidential election in 1856.

Knox, Henry, an American military officer; born in Boston, July 25, 1750. For his signal service at Yorktown he was made Major-General. In 1785 he was appointed by Congress Secretary of War. He was the valued friend of Washington and rendered him great assistance in disbanding the

army and in managing Indian affairs. He resigned from the Cabinet in 1795, retiring to private life. He died in Thomaston, Me., Oct. 25, 1806.

Knox, John, a Scotch religious reformer; born in Giffordsgate, near Haddington, Scotland, in 1505. A pioneer of Puritanism; prisoner of war, for 19 months confined in the French galleys; friend of Calvin and Beza; a preacher of sermons that moved their hearers to demolish convents; with a price on his head, yet never faltering; arrested for treason, an armed "congregation" at his heels; burned in effigy, for years a dictator—he spent his life forwarding the Reformation in Scotland. His great work distinguished in Scottish prose, was his "History of the Reformation of Religion within the Realm of Scotland" (1584). He died in Edinburgh, Nov. 24, 1572.

Knox, John Jay, an American financier; born in Knoxboro, N. Y., March 19, 1828. He was graduated at Hamilton College in 1849. A bill which he proposed was passed with a few modifications, and is known as the Coinage Act of 1873. In 1872-1884 he was Comptroller of the Currency; became president of a National Bank in New York city. He died Feb. 9, 1892.

Knox, Philander Chase, an American lawyer; born in Brownsville, Pa., May 4, 1853; settled in Pittsburg, Pa.; and was admitted to the bar there in 1875. In 1901, he was appointed Attorney-General of the United States, and in 1909-13 was Secretary of State. Died, 1921.

Knoxville, city and capital of Knox county, Tenn.; on the Tennessee river and the Knoxville & Bristol and other railroads; 180 miles E. of Nashville; is a very important commercial and manufacturing city, in a section yielding iron, copper, coal, zinc, granite, and the well-known Tennessee marble; and is the seat of the State University, Knoxville College for Colored Students (Unit. Presb.), Tennessee Medical College, Holbrook College, Eastern State Insane Asylum, State Institutions (separate) for White and Black Deaf Mutes, the Lawson McGhee Memorial and the State Agricultural

Experiment Station. Pop. (1930) 105,802.

Kobbe, William A., an American military officer; born in New York city, May 10, 1840; was educated in New York city, and in Wiesbaden, Freiberg, and Klausthal, Germany; and was graduated at the United States Artillery School in 1873. He served in the Civil War as a private in the 7th New York regiment and rose to the rank of captain; and in the Spanish-American War as major of the 3rd United States artillery to Brigadier-General, U. S. A. In January, 1900, he was given command of an expedition to the S. extremity of Luzon, and in March following was appointed military governor of the Province of Albay (Luzon), and Catanduanes Islands, and temporary governor of the islands of Samar and Leyti; and soon afterward opened the hemp ports to commerce. He was promoted to Brigadier-General Feb. 6, 1901, Major-General Jan. 19, 1904, and was retired on the following day.

Kobe, a port of Central Japan; on the W. shore of the Gulf of Ozaka, about 20 miles S. of that city. Pop. (1925) 644,212.

Koch, Robert, a German bacteriologist; born in Klausthal, in the Harz Mountains, Dec. 11, 1843. He studied medicine at Gottingen, receiving his doctor's degree in 1866 at the age of 23. In 1879 he had begun his investigations of the causes of consumption, and on March 24, 1882, he announced the discovery of the tubercle bacillus before the Physiological Society of Berlin. In 1883 he was made a privy-councilor and placed in charge of the German expedition sent to Egypt and India to investigate the causes of cholera. This journey resulted in the discovery of the comma bacillus, or cholera germ, in May, 1884. He was rewarded with a gift of \$25,000 by the government, and imperial titles and honors were showered upon him. In 1885 he was appointed a professor in the University of Berlin, the new chair of hygiene being created for him, and director of the Hygienic Institute. He subsequently returned to the investigation of tubercular diseases, but years of patient research were required before he was able to announce to the world

his remedy for consumption and its allied diseases. Died May 27, 1910.

Kock, Charles Paul de, a French novelist and playwright; born in Passy, France, May 21, 1794. He wrote also popular songs. He may be called a Balzac on a lower and narrower stage. He died in 1871.

Kodama, Baron Gentaro, Japanese general; born in Choshiu, about 1852, of a Samurai family. His military career commenced at 14, in the Civil War against feudalism. He studied in Europe; rose to Minister for War during the Chino-Japanese Conflict, 1894-5, and in 1903 became Home Secretary. He was Chief of Staff in the Russo-Japanese War, 1904-05. He died July 22, 1906.

Koenigshutte, the site of the largest iron works in Silesia, Germany, 3 miles S. of Beuthen, after the World War became a city of Poland; absorbed several neighboring villages in 1869. Besides the iron works there are rolling mills, zinc works, and brick and glass plants. The bulk of the inhabitants are poles. Pop. (1923) 78,600.

Kohlrabi, the turnip-stemmed cabbage, a variety of cabbage having a turnip-like protuberance on the stem just above the ground, which is the most edible part of the plant. It is used in the United States for feeding cattle.

Kohlstaat, Herman Henry, an American publisher. He was educated in the public schools of Chicago and Galena, Ill. He acquired a fortune in the bakery business and other enterprises. In 1891 he became part owner of the "Inter-Ocean" of Chicago, and in 1894 owner of the Chicago "Times-Herald," now "The Record-Herald." Died in October, 1924.

Kohut, Alexander, a Jewish-American theologian; born in Felegyhazza, Hungary, May 19, 1842. He was one of the greatest Orientalists and Semitic scholars of his age. He was a member of the Hungarian Parliament; founded the Jewish Theological Seminary in New York (1886), in which he was professor (1886-1894). His chief work was "Complete Dictionary of the Talmud" (9 vols. 1878-1892). In later years he devoted himself to Arabic-Hebrew literature as recently discovered in

the MS. fragments from Yemen. He died in New York, May 25, 1894.

Kola, the northernmost village of Europe, in Russian Lapland.

Kola Nuts, the red and white seeds in the brownish yellow fruit of the purplish flowers of a West African tree. They contain the constituents of coffee, tea, and cocoa, and other stimulating properties.

Koluschan, a linguistic stock of Alaskan Indians.

Komura Jutaro, Baron, Japanese statesman; b. 1858. He graduated from Harvard Law School, 1878, and attended various European universities. He became a judge in Japan but resigned, and occupied a minor official position until 1894, when he showed conspicuous ability in China, in Korea later, as Minister to the U. S., in China 1900, and as Foreign Minister 1902, when he effected the Anglo-Japanese Alliance. He was created Baron 1903. He directed the negotiations preceding the war with Russia, and was the chief peace plenipotentiary at Portsmouth, N. H., in 1905.

Koniggratz. See SADOWA.

Kongo Free State, former name of the present Belgian Kongo, a vast territory in Africa, founded in 1882 by Leopold II., King of Belgium, and placed under his personal sovereignty, with its perpetual neutrality guaranteed. The State was annexed to Belgium by a treaty approved by the King on Oct. 18, 1908. Its area is estimated at 909,654 square miles, with a population of Bantu origin officially estimated (1921) at 10,000,000. The territory is divided into 22 administrative districts, each under a commissioner. The King is represented by a Governor-General.

The inhabitants of the Kongo basin belong to what has been termed the Bantu race. They are a happy, inoffensive people, not so dark as the Fan or Ethiopian. Split up into numberless tribal communities, they can offer but slight resistance to the advance of civilization; and as they are born traders, they take very readily to commerce. The climate of Belgian Kongo is tropical, the average temperature ranging between 78° and 82°. The principal products are ivory, palm oil, palm kernels, india-rubber, various gums, ground nuts,

camwood, beeswax, orchilla; also coffee, tobacco, hill rice, maize, and sorghum. Tropical fruits, such as bananas, pineapples, and mangos, abound. The total value of the general imports in 1913 was \$11,523,725, and of the general exports in 1912, \$16,692,985. The chief imports in 1913 were cottons, provisions, and iron, steel, and copper; chief exports, rubber, ivory, and copal. The budget of 1914 showed, estimated receipts, \$6,090,250, and expenditures, ordinary and extraordinary, \$12,615,110.

Kongo, Congo, or Zaire River, the great river of S. Africa, rising in the Chibalé Hills, above Lake Bangweolo. It flows chiefly through the Kongo Free State, and after a course of about 3,000 miles falls into the Atlantic at Port Banana. It is navigable to Stanley Falls, 110 miles from its mouth, and in the reaches above.

Konia, or Konieh. See ICONIUM.

König, Friedrich, a German inventor; born in Eisleben, April 17, 1774. He became a printer, and at the same time eagerly prosecuted scientific studies. In 1810 he invented and patented a press which printed like the hand press by two flat plates. A second patent was obtained in 1811 for a cylinder press. This improved machine was adopted in 1814 by the proprietors of the London "Times." Later he was engaged in making steam printing presses at Oberzell, near Würzburg, in Bavaria. He died Jan. 17, 1833.

Königsberg, one of Germany's strongest fortified seaports, capital of the province of East Prussia, on the Pregel, 5 miles from its mouth in the Frische Haff, 338 miles N. E. of Berlin; founded by the Teutonic Knights in the 13th century; has important manufactures. Pop. (1925) 279,880.

Koran, the religious code of the Mohammedans, written in Arabic by Mohammed. In size it is about equal to the New Testament. It is divided into 114 surahs or chapters, each of which begins with the phrase "In the name of God." According to the Mohammedan doctrine, it was written from the beginning in golden rays on a gigantic tablet in heaven, and was communicated to the prophet on the night of Al-Khadr, in the sacred month of Ramadan by the angel Gabriel precisely as it stands, verse for

verse, chapter for chapter, written on parchment made of the skin of the ram which Abraham sacrificed in the place of his son Isaac. The volume was ornamented with precious stones, gold, and silver, from paradise.

According to other traditions Mohammed is said to have drawn up the Koran with the assistance of a Persian Jew, Rabbi Warada Ibn Nawsal, and a Nestorian monk, the abbot of the convent of Addol Kaisi, at Bosra, in Syria; but nothing certain is known respecting these two persons, though it appears beyond a doubt that he was acquainted with the religions of the Jews and Christians. His knowledge appears to have been derived, however, more from oral intercourse with adherents of these creeds than from an extensive acquaintance with their sacred books. Of the sacred writings of the Jews he cites only the Pentateuch and the Psalms. In chapter xxi. he represents the Almighty as saying, "I have promised in the books of Moses and in the Psalms that my virtuous servants on earth shall have the earth for their inheritance." Of the New Testament he cites nothing whatever. Not only was he acquainted with the religious systems of the Jews and Christians, but also, with those of the Sabæans and Magians, from all of which he seems to have drawn materials which he incorporated into a system, after the idea of establishing a religion in his country, where numberless sects of Pagans, Jews, Christians, Sabæans and Magians existed, had risen in his mind.

The language of the Koran is considered the purest Arabic, and contains such charms of style and poetic beauties that it remains inimitable. Its moral precepts are pure. A man who should observe them strictly would lead a virtuous life. It inculcates obedience to God, charity, mildness, abstinence from spirituous liquors, and toleration, and ascribes particular merit to death in the cause of religion. "From the Atlantic to the Ganges," says Gibbon, "the Koran is acknowledged as the fundamental code, not only of theology, but of civil and criminal jurisprudence; and the laws which regulate the actions and the property of mankind are guarded by the infallible and immutable sanc-

tion of the will of God." The Koran is regarded with great reverence in Mohammedan countries. It is daily read once through in the mosques of the Sultan and the adjoining chapels. Mohammedans never touch it without previous purification and never carry it below the girdle. Texts taken from it are frequently written on doors, walls of rooms, banners, etc. The commentaries upon it are exceedingly numerous.

Korea, a former empire in Asia comprising the peninsula lying between the Yellow Sea and the Sea of Japan, and separated by the Strait of Korea from the Japanese Islands. Treaties and negotiations begun in 1895 resulted, Aug. 22, 1910, in the annexation of the territory to Japan. Area, about 86,000 square miles; population (1924) 18,313,800; capital, Seoul.

The climate is healthy, bracing in the N., but colder in winter and hotter in summer than in corresponding European latitudes. Among the products are rice, wheat, beans, cotton, hemp, maize, millet, sesame, perilla. Ginseng grows wild in the Kange Mountains, and is also much cultivated about the Kai-song, the duties upon it, notwithstanding much smuggling, yielding about \$500,000 annually. The domestic animals are few. The cattle are excellent (the bull being the usual beast of burden), the ponies very small but hardy, fowls good, pigs inferior. Iron ores of excellent quality are mined; and there are copper mines in several places. The output of silver is very small; in 1886 the customs returns showed the value of gold exported that year to be \$503,296. Three-fourths of the trade is with Japan, and over a fifth with China. The government is a hereditary and practically absolute monarchy, and carried on through three ministers, besides whom are ministers of six departments. Caste is very powerful, and no office of even only local importance is held by others than a noble. In some districts the people live in a very squalid condition, and mud hovels thatched with straw are the usual houses everywhere; but beggars are rare, and absolute distress is seldom met with.

The earliest records of Korea go

back to 1122 B. C., when Ki-tze with 5,000 Chinese colonists brought to Korea Chinese arts and politics. Down to modern times Korea has remained perfectly secluded. Japan was the first to effect a footing in Korea in 1876, when a treaty was concluded between the two countries. Korea followed this up by treaties with China and the United States in 1882; with Germany and Great Britain, 1883; with Italy and Russia, 1884; and with France, 1886. The three ports opened to foreign trade are Chemulpo, Pusan, and Gen-san. The new policy has led to discontent; and there was an insurrection in 1884. A rumor that Russia was about to establish a protectorate over Korea in 1888 was officially denied. The suzerainty of China had been acknowledged by Korea from early times, but Japan protested, and this was one of the alleged causes of the Japanese-Chinese War of 1894. China renounced her claim in 1895 and Japan began to display an active interest in Korea. Russia thereupon asserted her right to a voice in Korean affairs, and by 1904 the rival interests of the two powers resulted in the Russo-Japanese War (q. v.), and the occupancy of Korea by Japan. Japan remained in Korea after her victory over Russia, and in 1910 annexed the empire and renamed it Cho-sen.

Korner, Karl Theodor, German poet; born at Dresden, 1791, killed 1813. He wrote tragedies and dramas, but is famous for his national patriotic lyrics. He joined the Lützow corps of hussars in 1813, and was fatally wounded near Gadebusch in Mecklenburg-Schwerin. "Leyer und Schwert"—Lyre and Sword, published after his death, contains some of the finest war-songs in any language.

Korvei. See CORVEY.

Kosciusko, or **Kosciuszko**, **Tadeusz**, a Polish patriot; born in Lithuania, Feb. 12, 1746. He chose the career of arms, and was trained in France. In 1777 an unhappy love affair drove him to the United States, where he fought for the colonists and advanced to the rank of Brigadier-General. He returned to Poland in 1786. When Russia attacked his country in 1792, Kosciusko held a position at Dubienka for five days with

only 4,000 men against 18,000 Russians. In spite of this the pusillanimous King Stanislaus submitted to the Empress Katherine, whereupon Kossuth resigned his command and retired to Leipsic. After the second partition of Poland he put himself at the head of the national movement in Cracow and was appointed dictator and commander-in-chief (1794). His defeat of a greatly superior force of Russians at Racławice was followed by a rising of the Poles in Warsaw. He established a provisional government and took the field against the Prussians, but, defeated, fell back upon Warsaw and maintained himself there valiantly till the approach of two new Russian armies induced him to march to meet them. He was overpowered by superior numbers in the battle of Maciejowice, Oct. 10, 1794; and, covered with wounds, he himself fell into the hands of his enemies. Two years later the Emperor Paul restored him to liberty. He finally settled at Solothur in Switzerland in 1816, and died on Oct. 15, 1817, by the fall of his horse over a precipice.

Kossuth, Louis, the leader of the Hungarian revolution; born in Munkacs in Hungary in 1802. His family was of noble rank, but his parents were poor. He studied law at the Protestant college of Sarospatak, and practised for a time. In 1832 he commenced his political career at the diet of Presburg as the deputy of absent magnates, and as editor of a journal. He advocated the emancipation of the peasants, the abolition of all feudal rights and privileges, the freedom of the press, etc., and openly demanded an independent government for Hungary and constitutional government in the Austrian hereditary territories. On the resignation of the ministry in September, 1848, he found himself at the head of the Committee of National Defense, and prosecuted with extraordinary energy the measures necessary for carrying on the war. As a reply to an imperial decree, dated March 4, abolishing the Hungarian constitution, he induced the National Assembly at Debreczin, in April, 1849, to declare that the Hapsburg dynasty had forfeited the throne of Hungary.

He was now appointed provisional

governor of Hungary. Finding that the dissensions between himself and Gorgei were damaging the national cause, he resigned his dictatorship in favor of the latter. After the defeat at Temesvar on Aug. 9, 1849, he found himself compelled to flee into Turkey, where he was made a prisoner. In September, 1851, he was liberated by the influence of England and the United States, and sailed in an American frigate to England, where he was received with every demonstration of public respect and sympathy. In December of the same year he landed in the United States, where he met with a most enthusiastic reception.

He returned in June, 1852, to England, and there he chiefly resided till Sardinia and France prepared for war with Austria; when, on condition of something definite being done for Hungarian independence, he proposed to Napoleon to arrange a Hungarian rising against Austria. The peace of Villafranca bitterly disappointed Kossuth, but did not dishearten him. He made two other attempts to bring about a rising against Austrian rule in his native country, but without final success. When in 1867 Deak effected the reconciliation of Hungary with the dynasty Kossuth retired from active political life. He afterward lived mostly in Turin, and, though never tired of denouncing the political and economical alliance between Hungary and Austria, abstained from conspiring or agitating against it; but he refused to avail himself of the general amnesty (1867) and to return to his native land to take the oath of fealty to the dynasty he had once dethroned. In virtue of an act passed in 1879 he lost his Hungarian citizenship early in 1890, he having resided abroad for 10 years after the passing of the said act without taking the prescribed steps. He died in Turin, March 21, 1894.

Kotow, the ceremony of prostration, with striking of the forehead on the ground nine times, performed before the Emperor of China. The British envoy, Lord Amherst, in 1816, refused to perform the derogatory ceremony, and the point was conceded by the Chinese in the treaty of 1857, and the practice has not been revived.

Kotzebue, August Friedrich Ferdinand von, a German dramatist; born in Weimar, May 3, 1761. Of about 200 tragedies, comedies, dramas, and farces, many of them very popular at the time of their production, the best known now are: "Misanthropy and Repentance" (1789), reproduced in Paris as late as 1862, and famous in the United States and England in Sheridan's adaptation entitled "The Stranger." During much of his life he was in Russian service; and was once banished to Siberia by the Emperor Paul, who, however, recalled him a year later through being moved by something in one of his plays, gave him a rich estate, and made him aulic counselor and director of the court theater at St. Petersburg. In 1819, he was assassinated in Mannheim, Germany, as a Russian spy, by a student.

Kouropatkin. See KUROPATKIN. **Kovno**, formerly a division and city in Russia, now in Lithuania, and the town is temporarily the capital, the latter at the junction of the Nieman and Wilna rivers, 62 miles W. N. W. of Wilna. The town is practically a first-class fortress, comprises an old and a new section, has many noteworthy buildings, and prior to the year 1914 had a brisk trade with Prussia. The town was founded in the early part of the 11th century, and was a victim of the World War. Pop. (1923) town, 94,405, about one-half Jews.

Krakatoa, a volcanic island in the Strait of Sunda, between Java and Sumatra; was in 1883 the scene of one of the most tremendous volcanic disturbances on record. The crater walls fell in, together with a part of the ocean bed, carrying with it two-thirds of the island (total area before the eruption 13 square miles), and creating two small islands. At the same time an ocean wave inundated the coasts of Java and Sumatra, causing a loss of 36,500 lives and the destruction of 300 villages.

Krapotkin, Peter Alexievich, Prince, a Russian scientist; born in Moscow, Dec. 9, 1842. He was in the Russian army for a time and made extensive journeys in Siberia and Manchuria. Charged with anarchist affiliations, he was imprisoned two

years in Russia, escaped, founded the anarchist paper "La Revolte" in Geneva (1879), and after being expelled from Switzerland in 1881, commenced a crusade against the Russian government in the English and French press. He was imprisoned in France in 1883-86. He is the author of various works on Nihilistic subjects; and his contributions on modern scientific subjects to the leading reviews have been numerous and interesting. D. 1921.

Krasinski, Sigismund, a Polish poet; born in Paris, France, Feb. 19, 1812. On account of his health he lived in various European capitals outside Poland. He became one of Poland's three greatest poets, exerting wide influence on her literature. He died in Paris, Feb. 23, 1859.

Krauskopf, Joseph, an American clergyman; born in Ostrov, Prussia, Jan. 21, 1858. He came to the United States in 1872; was graduated at the University of Cincinnati in 1883; made rabbi by Hebrew Union College; and in 1887 became rabbi of Reform Congregation Keneseth Israel in Philadelphia. He became a leader in the reformed Jewish movement, and published "Evolution and Judaism," and many volumes of lectures. D. 1923.

Krefeld, one of the important manufacturing towns of Germany; 12 miles N. W. of Dusseldorf; noted for its silk and velvet manufactures. Pop. (1925) 130,425.

Krehbiel, Henry Edward, an American musical critic; born in Ann Arbor, Mich., March 10, 1854. He was musical critic successively on the Cincinnati "Gazette" and the New York "Tribune." D. March 20, 1923.

Kremlin, in Russia, the citadel of a town or city; specially applied to the ancient citadel of Moscow.

Kreuzburg, a town of Prussian Silesia, on the Stober river, 10 miles from the Russian Poland frontier, 24 miles N. N. E. of Oppeln. It has flour mills, distilleries, breweries, iron works, and machine shops, and was within the field of operations against Russian Poland in the World War. Pop. about 12,000.

Kriegspiel, a German game in which by means of leaden pieces representing various sized bodies of men, moved by two officers acting as gen-

erals, under certain rules, on a map exhibiting all the natural features of a country, the art of war is exemplified and set forth.

Kris, a dagger or poniard, the universal weapon of the inhabitants of the Malayan Archipelago. It is made of many different forms, short or long, straight or crooked. The hilt and scabbard are often much ornamented. Men of all ranks wear this weapon, and those of high rank when in full dress sometimes carry three or four.

Krishna. See CRISHNA.

Kroeger, Adolph Ernst, an American writer; born in Schwabstedt, Schleswig, in 1837. During the Civil War he served on Fremont's staff. By translations of the works of Fichte, Kant, and Leibnitz he largely contributed to a better understanding of German literature in the United States. He died in St. Louis, Mo., 1882.

Kroeh, Charles Frederick, an American educator; born in Germany in 1846. After 1871 he was Professor of Languages at Stevens Institute of Technology.

Krotoschin, a town in Polish Posen, 24 miles from Russian-Poland frontier, 53 miles S. E. of the city of Posen. It has a considerable trade in grain and seeds, and was in the field of German operations against Russian Poland in the World War. Pop. 14,000.

Kruger, Stephanus Johannes Paulus, a Boer statesman; born near Colesberg, Cape Colony, Oct. 10, 1825. His ancestors were Germans. He was the son of a farmer, and his early life was of a migratory, pastoral character, mingled with heroic hunting feats, and battles with the natives. He was conspicuous in the Civil War of 1861-64, and became commandant-general. He was chosen a member of the Transvaal Executive Council in 1872; ten years later was elected President, and on four subsequent occasions to 1898. When native and financial difficulties called for British protection, he fought strenuously against annexation, and obtained the practical independence of the Transvaal in 1881, after the British reverses at Majuba and elsewhere. He adopted vigorous measures in suppressing the Uitlander uprising and the Jameson Raid, but in 1899 his oppressive and unprogressive policy

led to the South African War. Disastrous British defeats were followed by the crushing of the Boer forces, and Kruger fled to Holland, establishing himself later at Mentone. Kruger first married a Miss Du Plessis, whose family is a branch of that to which Cardinal Richelieu belonged. His second wife was a niece of the first Mrs. Kruger. They had several children. While on a visit to Clarens, Switzerland, he died July 14, 1904.

Krupp, Alfred, a German metal founder and steel gun manufacturer; born in Essen, Prussia, in 1812. His father founded the manufactory. Alfred discovered the method of casting steel in very large masses. In 1851 he sent to the London Exhibition a block of steel weighing 4,500 pounds, and was able to cast steel in one mass weighing more than 100,000 pounds. He manufactured a great variety of articles for use in various peaceful industries, but his world-wide fame was made by the production of the enormous steel siege guns with which the Germans did such terrible execution when they invested Paris. Krupp made his first cannon in 1846. He died July 14, 1887. His son, Frederick Alfred Krupp, head of the family, died suddenly, Nov. 22, 1902, after heinous charges had been published against his moral character. The German Emperor spoke in defense of Krupp's memory at the funeral.

Krupp Steel, a name for one of the most important products of the Essen works in Prussia.

Kubla Khan, the founder of the 20th Chinese dynasty, that of the Mongols or Yen. He was the grandson of Genghis Khan, and was proclaimed Emperor of the Mongols in 1260, in succession to his brother, Mangou Khan. He reigned, at first, only in Mongolia and the countries conquered by Genghis Khan; but he invaded China in 1267; captured the Chinese emperor in 1279, and thus overthrew the Song dynasty, which had ruled for 319 years. He extended his conquests over Tibet, Pegu, Cochin China, and formed the greatest empire known in history, embracing the whole of Asia and part of Europe, from the Dnieper to Japan. He patronized letters, and encouraged agriculture, industry, and commerce. Marco Polo passed 17 years at his court. He died in 1294.

Kubelik, Jan, a Bohemian violinist; born in 1879; began his career as a public performer in 1887, when he played before the Prague Philharmonic. Subsequently he made a brief but unusually successful tour on the Continent and in England, and in December, 1901, came to the United States, where he was enthusiastically received.

Kugler, Franz Theodor, a German historian; born in Stettin, Jan. 19, 1808. He was appointed a Professor of Fine Arts in the University of Berlin in 1833, and subsequently became a member of the Academy of Berlin. Died in Berlin, March 18, 1858.

Kuhn, Adalbert, a German philologist; born in 1812. He made important contributions to comparative philology, and is regarded as the founder of the science of comparative Indo-Germanic mythology. He died in 1881.

Ku-Klux Klan, a secret American organization which, said to have been founded in 1866 at Pulaski, Tenn., originally for purposes of amusement only, soon developed into an association of "regulators" of the conduct of freed slaves. An order, under the same name, was established beginning with 1915. Membership not known as to extent.

Kulm, a Polish town, lying 23 miles N. E. of Bromberg; is surrounded by walls dating from the 13th century; has important manufactures and considerable agricultural trade; passed from the Teutonic Knights to Poland in 1466 and was annexed to Prussia in 1772; ceded to Poland after World War.

Kunersdorf, a village in Prussia; 4 miles E. of Frankfort-on-the-Oder; was the scene of one of the most remarkable battles of the Seven Years' War, fought Aug. 12, 1759, in which Frederick the Great with 48,000 men, after gaining a half victory, was completely defeated by the allied Russians and Austrians, 78,000 men strong. The Prussian loss was 18,500 men, with almost all their artillery and baggage, while their opponents lost 16,000 men.

Kunstmann, Friedrich, a German historian; born in Nuremberg, Jan. 4, 1811. He published "The Discovery of America from the Most Ancient Sources" (1859), with copies of early maps. He died in 1867.

Kunz, George Frederick, an American gem expert; born in New York city, Sept. 29, 1856; was educated at Cooper Union, receiving an honorary A. M. at Columbia University. He became a special agent of the United States Geological Survey in 1883; was in charge of the department of mines at the Omaha, Atlanta, World's Columbian and Paris Expositions; was president of the New York Mineralogical Club and vice-president of the American Institute of Mining Engineers, etc. He contributed over 100 papers on gems, minerals, etc., to magazines and reviews, and is the author of "Gems and Precious Stones of North America."

Kurdistan, an extensive geographical, though not political, region of Asia. Kurdistan belongs to both the Turkish and Persian monarchies, chiefly to the former, and contains about 50,000 square miles, with a population estimated at more than 2,250,000. The country embraces the mountainous chains that abut upon the Armenian on the S., on the Iranian plateau on the E. Thus its surface ranges from 5,000 up to 15,000 feet in altitude. Between the mountain chains, the summits of which are generally densely wooded, lie grassy plateaus. The principal products of the soil and of native industry are wool, butter, sheep, gum, gall-nuts, hides, raisins, and tobacco.

The bulk of the inhabitants are Kurds, a race partly nomad and pastoral, and partly settled and agricultural. Kurdistan with Armenia constituted a Turkish vilayet, in 1916, with a total area of 71,990 square miles and pop. of 2,470,900. The vilayet contains the towns of Erzerum, Diarbekr, Bitlis, and Van, all of which were conspicuous in the World War.

Kuria-Maria Islands, a group of five islands; 21 miles from the S. E. coast of Arabia; area, 21 square miles. The ancient Insulæ Zenobii, they were ceded to England in 1854 by the Imam of Muscat. On one of them is a signaling station of the Eastern Telegraphs Company. Guano of an inferior quality is obtained from them.

Kuriles, a chain of islands in the North Pacific, extending S. W. to N. E. from Japan to Kamchatka, and be-

longing to Japan; area, about 5,000 square miles. The whole chain is of volcanic origin, and there are many active volcanoes, one of which is about 15,000 feet high.

Kurnberger, Ferdinand, an Austrian novelist; born in Vienna, in 1821; died 1879. His works are witty and highly poetical. His first novel was "Tired of America" (1856).

Kuroki, Baron T., Japanese general; born about 1844. He commanded the First Army Corps in the Russo-Japanese War, and inaugurated a series of victories, by the defeat of Gen. Sassulitch, and the crossing of the Yalu, May 1, 1904.

Kuropatkin, Alexei Nicolaievitch, a Russian general and author; born Mar. 17, 1848. He graduated from the Cadets School and Military College in St. Petersburg, and at 18 began an active military career in Bokhara under Skobelev. He distinguished himself in the Turkish War of 1877-1878; and in the Russo-Japanese war of 1904-1905 was Russian commander-in-chief till superseded by General Linievitch in March, 1905, and afterward commanded the 1st Manchurian Army. He was repeatedly defeated, but saved his army by masterly retreats. Early in his career he became widely-known as a writer on military topics, and his history of the Balkan campaign was pronounced a war classic. In 1909 his "Military Memoirs," in which he criticised the Russian government and imperial family for the results of the war with Japan, was suppressed in Russia and published in New York.

Kustendji, a Rumanian city on the Black Sea, 25 miles S. E. of Medjidie, the site of Tomi, where Ovid spent his exile. Trajan's Wall, some traces of which can still be seen, terminated here. The city is Rumania's principal seaport, and has extensive harbor works. Pop. about 15,000.

Kutusoff, Michael Ilarionovich, a Russian field marshal; born Sept. 16, 1745; entered the Russian army at the age of 16, and in 1784 became Major-General. He distinguished himself in the Turkish War, and was appointed in 1805 to the command of the first army corps against the French. He was second in command of the allied army under the Emperor Alexander at Austerlitz. In 1811-1812 he commanded the Russian army in the war against the Turks. In 1812, notwithstanding his advanced age, he succeeded Barclay de Tolly as commander-in-chief of the army against the French, fought Napoleon obstinately at Borodino, and obtained a great victory over Davout and Ney at Smolensk. Tolstoi (in "War and Peace") calls him "the genius of Russia and of the war." He died in Bunszlau, April 8, 1813.

Kwang-Su, Emperor of China; born in 1872; succeeded to the throne in 1875, and assumed the government on his marriage in 1889. His reforming zeal, with foreign complications, led to his practical deposition by the Dowager Empress in 1898.

Kwapa, or **Quapaw**, a tribe of the Dhegiha division of North American Indians. They give themselves the name of Ukaqpa, meaning "those who went down stream." Their total number is about 232; some of them live in the Indian Territory, and others are in Oklahoma. The Kwapa were called Akansa by the Illinois, from which comes the name Arkansas.

Kyrle, John, an English philanthropist; born in 1664. He was styled the Man of Ross by Pope, having resided for the greater part of his life in the small town of Ross, Herefordshire. He spent his time and fortune in building churches and hospitals, on an income amounting to \$2,500 a year. Pope celebrated his praises in his "Moral Essays," and Warton said that he deserved to be celebrated beyond any of the heroes of Iliad. He died in 1724.

L



L, in the English alphabet, the 12th letter and the 8th consonant; one of those called by some grammarians liquids, because, like vowels, they may be pronounced for any length of time.

Laager, in South African campaigning, a camp made by a ring of ox wagons set close together, the spaces beneath being filled up with the baggage of the company.

Laaland, or **Lolland**, a Danish island in the Baltic, at the S. entrance to the Great Belt, 36 miles long by 9 to 15 broad; area, 445 square miles; pop. about 65,000.

Laban, a rich herdsman of Mesopotamia, son of Bethuel and grandson of Nahor, Abraham's brother (Gen. xxiv: 28-31). His character is shown in the gladness with which he gave his sister Rebekah in marriage to the only son of his rich uncle Abraham, and in his deceitful and exacting treatment of Jacob, his nephew and son-in-law. When the prosperity of the one family and the jealousy of the other rendered peace impossible, Jacob secretly departed to go to Canaan. Laban pursued him, but returned home after making a treaty of peace.

Labedoyere, Charles Angelique Huchet, Comte de, a French military officer; born in Paris in 1786. The campaigns of 1812 and 1813 gave him new opportunities of distinguishing himself. Having been severely wounded in 1813, he was not in active service at Napoleon's abdication, but returned to it under the Bourbons, and was with his regiment near Vizelle when Bonaparte returned from Elba. He immediately joined him. After the battle of Waterloo, where he fought

with great courage, he hurried to Paris. On the capitulation of Paris he followed the army behind the Loire. Having determined to emigrate, he returned once more to Paris in order to take leave of his family, but was immediately apprehended and brought before a court-martial. His defense was unavailing, and he was sentenced to be shot (Aug. 15, 1815). On appeal the sentence was confirmed, and on Aug. 19, was carried into execution.

Lablache, Luigi, a noted opera singer; born in Naples, Italy, Dec. 6, 1794. His first engagement as a singer was at the San Carlino Theater at Naples in 1812. From 1830 to 1852 he sang nearly every winter at Paris, and annually made visits to London, St. Petersburg, and various cities in Germany. His voice, a deep bass, has hardly ever been equaled either in volume or quality. He died in Naples, Jan. 23, 1858.

Labor, in political economy, may be defined as effort for the satisfying of human needs. It is one of the three leading factors in production, the other two being land (or natural objects) and capital; and it is more fundamental than capital, which originally is the result of labor.

Labor, American Federation of, an association organized in Columbus, Ohio, in 1886, and comprising (1928) 107 national and international unions, 4 departments, 45 State branches, 792 city central union, 29,128 local union, and 2,896,063 members.

Labor Bureau, a department connected with the United States Commission of Emigration, having its headquarters at New York.

Labor Day, a legal holiday, by State enactment only, observed on the first Monday in September in the principal manufacturing and industrial States.

Labor, Department of, an executive department of the United States government, created in 1913 by taking the Bureau of Labor from the former Department of Commerce and Labor, and making it an independent department.

Labor Union, The American, organized in 1902, as a secession movement from the Western Labor Union. A federation of Trades Unions, pledged to socialism and political action. Is confined chiefly to N. W. States.

Laborde, Alexandre Louis Joseph, Count de, a French writer of travels; born in Paris, Sept. 17, 1773. He was a soldier, accompanying Napoleon to Spain and Austria, and a politician. He died in Paris, Oct. 24, 1842.

Labori, Fernand, a French lawyer; born in Reims, France, April 18, 1860. He was collaborator in an "Encyclopedia of French Law" (12 vols.), and came into prominence in the defense of Dreyfus (q. v.).

Labouchere, Henry, an English journalist and politician; born in London in 1831. He was in the diplomatic service in the United States. He established "Truth," a London critical journal. Died, Jan. 16, 1912.

Laboulaye, Edouard Rene Le-fevre de, a French jurist and historian; born in Paris, Jan. 18, 1811. He won distinction by several treatises on Roman and French law. He held up the American constitution to the admiration of his countrymen. After the fall of the empire he was elected for Paris in 1871 and became a life senator in 1875. His greatest work outside of the field of jurisprudence is a "Political History of the United States, 1620-1789." He died in Paris, May 25, 1883.

Labrador, the N. E. peninsula of the North American continent, lying between Hudson Bay and the Gulf of St. Lawrence, extending from lat. 49° to 63° N., and from lon. 55° to about 79° W.; greatest length from the Strait of Belle Isle to its N. cape, Wolstenholme, 1,100 miles; area, 120,-

000 square miles; pop. (1924) 3,874. collected chiefly at the Moravian missionary stations. The Atlantic coast is stern and precipitous (1,000 to 4,000 feet high), entirely destitute of vegetation, deeply indented with narrow fjords, and fringed with chains of rocky islands. The inner parts have been but very imperfectly explored; the greater part consists of a plateau, about 2,000 feet above sea-level, and mostly covered with fine forest trees, firs, birches, etc. Numerous lakes, including Mistassini, also exist inland, and, connecting with the rivers, afford in summer continuous waterways for great distances. The only inhabitants of this interior plateau are Cree Indians, nomads. There are numerous rivers, 200 to 300 miles long and 2 and 3 miles wide at their mouths, flowing toward the Atlantic and Hudson Bay. The Grand Falls on Grand river are believed to be among the largest (calculated to be little short of 2,000 feet in height) in the world. Of the mineral resources little is known; but iron and labradorite are certainly abundant. The climate on the coast is very rigorous, owing mainly to the ice-laden Arctic current which washes the shores. The mean annual temperature at the missionary stations varies from 22° to 28°. The winter is dry, bracing, and frosty. Since 1809 the coast region has been annexed for administrative purposes to Newfoundland. The remaining parts of the peninsula are designated the Northeast Territory. The coasts of Labrador were probably visited by the Norsemen about the year 1000; they were again sighted by Cabot in 1498. In 1500 a Portuguese navigator, Cortereal, seems to have visited it and to have given it its name, which means "laborers' land."

Labradorite (named from the locality whence first obtained), in mineralogy, a member of the feldspar group, in which the protoxide bases are lime and soda, the sesquioxide base being alumina. The colored varieties are sometimes used in jewelry. Called also Labrador feldspar.

Labrador Tea, a name given to two species of heath. They grow in America N. of Pennsylvania, and in the N. of Europe. They are low shrubs with alternate entire leaves clothed un-

derneath with rusty wool. The fragrant crushed leaves are used by the natives of Labrador as a substitute for tea.

La Bruyere, Jean de, a famous French moralist and satirist; born in Paris, August, 1645. His great work, on which his reputation rests, "The Characters of Theophrastus, Translated from the Greek, with the Characters or Manners of this Century" (1688), was a cloak for the keenest and most sagacious observations on the characters and manners of the court. It has been translated into well-nigh every modern language. He died in Versailles, May 10, 1696.

Labuan, an island six miles from the N. W. coast of Borneo; area, 30¼ square miles; pop. (1913) 6,706, mostly Malays and Chinese, with 30 Europeans. Besides possessing a good harbor (Victoria), it has an extensive bed of excellent coal. The island became British in 1846.

Laburnum, an ornamental shrub. It is a native of the mountainous regions of Southern Europe, and is much planted in pleasure grounds on account of its glossy leaves, and its beautiful yellow flowers like those of the broom, which come forth in great abundance in May and June. The laburnum often grows to a height of from 20 to 30 feet.

Labyrinth, with the ancients, a more or less subterranean building containing such a number of chambers and galleries, one running into the other, as to make it very difficult to find the way through it.



LABYRINTHODON.

Labyrinthodon, a genus of fossil amphibians whose remains are found in the Carboniferous, Permian, and Trias formations, those of the Trias being found in England, India, and Africa. They were allied to the croco-

dile and to the frog, and were from 10 to 12 feet long. The name is derived from the labyrinthine structure of a section of the tooth when seen under the microscope.

La Caille, Nicolas Louis de, a French mathematician and astronomer; born in Rumigny, France, March 15, 1713. In 1750 he visited the Cape of Good Hope for the purpose of studying the stars of the Southern Hemisphere, and he determined the position of 9,000 previously unknown. The table of eclipses for 1,800 years was calculated by La Caille. He died in Paris, France, March 21, 1762.

Lacandones, an Indian tribe living in Northern Guatemala and neighboring portions of Mexico. They were at one time numerous and powerful and waged war against the whites till about 1750. There are now but a few thousand left, of whom a part are friendly to the white people, though retaining their native customs, while the remainder refuse all intercourse with the other inhabitants.

Laccadives, a group of 14 coral islands in the Arabian Sea; about 200 miles W. of the Malabar coast; area, 744 square miles; pop. 14,440. They are low and flat and all but two are comparatively barren. The group was discovered by Vasco da Gama in 1499.

Lace, an ornamental fabric of threads so interwoven, twisted, braided, and knotted as to form definite patterns of contrasted open and close structure. The origin of lace is unknown, but it is of great antiquity.

Lacepede, Bernard de la Ville, Count de, a French naturalist; born in Agen, France, Dec. 26, 1756. He was appointed curator of natural history in the Royal Gardens at Paris in 1785; at the Revolution, Professor of Natural History in the Jardin des Plantes and in the university; senator in 1799; minister of state in 1809; peer of France in 1814. Besides continuing Buffon's "Natural History" at Buffon's own request, he wrote "Natural History of Fishes," etc. He died of smallpox in Epinay, near St. Denis, Oct. 6, 1825.

Lacerta ("The Lizard"), one of the eight constellations added to the original ones by Hevelius in his "Introduction to Astronomy" in 1690, or

rather one of the eight which have survived, for he added 10 in all. It is not a conspicuous one, the brightest star being of the fourth magnitude.

Lachaise, Francis d'Aix de, a French Jesuit; born in Aix, Loire, France, Aug. 25, 1624. He was a provincial of his order when Louis XIV. selected him for his confessor on the death of Father Ferrier in 1675. His position was one of great difficulty, owing to the different parties at the court, and the strife between Jansenists and Jesuits. He died in Paris, Jan. 20, 1709.

Lachine, a town in Jacques Cartier county, Quebec, Canada; on Lake St. Louis, the Lachine canal, and the Grand Trunk and Canadian Pacific railroad; 8 miles S. W. of Montreal, of which it is a summer residential and a winter pleasure suburb; manufactures leather and leather goods, lumber, wire, and foundry products. Pop. (1921) 15,404.

Lac-Insect, any scale insect secreting lac, a resinous substance, on trees. Lac is used for lacquers, varnishes, sealing-wax, and is of five varieties. It is formed chiefly by the female insects. Stick-lac is the substance in its natural state, incrusting small twigs.

Lackey Moth, a species of moth. The fore wings are either ocher-yellow, with two brown transverse stripes, or brownish-red with transverse yellow ones; the hind wings paler and without stripes.

Laclos, Pierre Ambroise Francois Choderlos de, a French novelist; born in Amiens in 1741. He is best known by his "Dangerous Connections." He died in Taranto, Italy, Nov. 5, 1803.

La Condamine, Charles Marie de, a French scientist; born in Paris, France, Jan. 28, 1701. He is best known as having with Bouger and Godin measured an arc of the meridian on the plain of Quito, Ecuador. The expedition lasted nine years (1735-1744). On his way home he descended the Amazon, being the first scientist to do so, and the first man to publish accurate maps of the river. He died in Paris, Feb. 4, 1774.

Laconic, a term applied to the style adopted by the Spartans, or

Lacedæmonians (whose country was called Laconia), who endeavored to confine themselves to a sententious brevity in speaking and writing.

Lacordaire, Jean Baptiste Henri Dominique, one of the greatest of modern pulpit orators; born in Recey-sur-Ource, Cote-d'Or, France, May 12, 1802. Having graduated in law he repaired in 1821 to Paris, where he practised as a probationary advocate. In 1824, to the surprise of those who knew that his theological system was dictated by Voltaire, he entered the Seminary of Saint-Sulpice, with the purpose of devoting himself to the Church, and in 1827 received holy orders. He distinguished himself greatly as a preacher, and was offered the post of vicar-general by the Bishop of New York. The revolution of 1830 alone prevented him from leaving. In 1860 he was elected into the Academie Francaise. Of his works his "Lettres a un jeune Homme sur la Vie Chretienne" has been much admired. He died in 1861.

La Crosse, city and capital of La Crosse county, Wis.; at junction of the La Crosse, Black, and Mississippi rivers and on the Chicago & Northwestern and other railroads; 130 miles S. E. of St. Paul, Minn.; has many important manufactures and very large shipments of lumber, largely pine and hard-woods, and grain; and is the seat of an Asylum for Chronic Insane, United States Marine and St. Francis's hospitals, and the Washburn Public Library. Pop. (1928 Est.) 30,400.

La Crosse, a Canadian field game played with a ball and a long stick bent at the top like a bishop's crozier. Strings of deer-skin are stretched diagonally across the hooked portion of the crosse in different directions, forming a network. Only one ball is employed, made of india-rubber, and eight or nine inches in circumference. Posts or poles about six feet high, with a small flag at the top of each, complete the equipment. The players are usually 12 on each side. The object of the game is for one side to drive the ball through their opponent's goal. The ball must not be touched with the hand or foot, but is scooped up from the ground with the bent end of the crosse.

nor must anyone lay hold of the crosse of another; a player may strike the ball off an opponent's crosse with his own crosse, and not by any other means. The game is played to a limited extent in the United States.

Lacteals, an anatomical term. The lacteals and lymphatics properly constitute one system of vessels which convey a fluid or fluids from various organs of the body to the veins near their terminations in the heart. The fluid which these vessels convey is milky after a full meal, and called chyle, though, during intervals of fasting, it is a yellowish lymph, as in the lymphatics. The lacteal vessels commence on the surface of the intestines, and unite with one another in the mesentery, and after leaving the mesenteric glands discharge their contents for the nourishment of the body into the receptaculum chyli, in front of the second lumbar vertebra.

Lactic Acid, in chemistry, a monobasic, diatomic acid, discovered by Scheele in sour milk, and first recognized as a distinct acid by Berzelius. It occurs in small quantity in the animal organism, especially in the gastric juice, and, under certain circumstances, is formed in the fermentation of some sugars.

Lactic Ferment, a minute organism which, under the microscope, is seen to consist of small elliptical cells, generally detached, but sometimes occurring in chains of two or three. It is developed in milk when it is allowed to stand for some time, and is the cause of the milk becoming sour, the sugar of the milk changing into lactic acid. It is also developed when cheese is added to a solution of sugar, and kept at a temperature of 35° to 40°.

Lactometer, or **Galactometer**, a species of hydrometer, graduated to show the comparative specific gravity and consequent value of different samples of milk. The instrument gives good evidence of the specific gravity of milk, and the specific gravity is a probable, but not positive, evidence of quality. Taken in connection with the per cent. glass, which measures the per cent. of cream that rises, it is nearly a positive indicator of pure and watered milk. One form of the lactometer for ascertaining the amount of cream in milk consists of a tube with

a funnel mouth for convenience in charging it, and having the upper portion graduated. The tube is about a foot in length, and, being filled, the cream is allowed to rise when its richness is determined by the number of graduated spaces occupied by the cream.

Lactoscope, an instrument, invented by Donne of Paris, for assisting in determining the quality of milk by ascertaining its relative opacity.

Lactose, in chemistry, a sugar isomeric with dextrose, formed from milk sugar by treatment with ferments or dilute acids.

Lactucarium, the brown viscid juice of the common garden lettuce, obtained by incision from the leaves and flowering stems, and dried in the air. It is a mixture of various substances, including lactucine, lactucin, lactic acid, mannite, albumin, etc. Lactucarium is hypnotic and sedative.

Lacuna, in human anatomy, an open space, prolonged into a canaliculus or delicate tube finer than the smallest capillary vessel, occurring in bone.

Ladd, George Trumbull, an American educator; born in Painesville, O., Jan. 19, 1842. He was educated in Western Reserve College and Andover Theological Seminary; was pastor of Spring Street Congregational Church, Milwaukee, Wis., in 1871-1879; and Professor of Philosophy at Bowdoin College in 1879-1881, when he assumed the chair of philosophy at Yale. His works include "Principles of Church Polity"; "Doctrines of Sacred Scripture"; "Elements of Physiological Psychology"; "Rare Day in Japan" (1910) etc. He lectured in India in 1899-1900, and was decorated by the Emperor of Japan. Died, 1921.

Ladislas, the name of six kings of Hungary: Ladislas I., King of Hungary; born in 1041, succeeded in 1079; died in 1095, and was canonized for his piety by Celestin III., 1198. Ladislas II., called the Infant, succeeded and died the same year, 1200. Ladislas III. succeeded 1272, assassinated, after a life of debauchery and a disgraceful reign, 1290. Ladislas IV., the same as Uladislas V., King of Poland, succeeded his father in the latter dignity, 1435, and was elected by the

Ladislas

Hungarians, 1440, killed in battle by the Sultan Amurath, 1444. Ladislas V. succeeded in the 5th year of his age, 1444, and died suddenly, 1458. Ladislas VI., son of Casimir IV., King of Poland, and called, according to the Polish form of his name, Uladislas II., became King of Bohemia 1471, and King of Hungary 1490. Died in 1516.

Ladislas, Ladislaus, or Lance-lot, King of Naples, called the Liberal and Victorious; born in 1376. He succeeded his father, Charles Duras, in 1386. He was previously Count of Provence and King of Hungary. On the death of his father he was opposed by Louis II., Duke of Anjou, which occasioned some bloody wars. Pope John XXIII. at first espoused the cause of Louis, but afterward took the part of Ladislas, who, however, marched against Rome, and having taken it, turned his arms on the Florentines, whom he compelled to sue for peace, in 1413. He died in Naples, it is suspected of poison, in 1414.

Ladoga Lake, the largest lake of Europe; a short distance N. of St. Petersburg, in Russia, being crossed by the frontier line between that country and Finland; 129 miles in length, 78 in breadth; area, 6,998 square miles. The S. and E. shores are low and marshy; but on the N. W. the coast is broken, and rises into cliffs. There, too, are numerous islands. The lake receives the waters of Lake Onega and Lake Ilmen in Russia and of Lake Saima and other lakes in Finland; and its own waters are carried off to the Gulf of Finland by the Neva.

Ladrones, or Marianne Islands, a chain of 17 islands in the North Pacific, E. of the Philippines and the Caroline Islands; area, about 500 square miles. They were discovered by Magellan in 1521, who gave them the name of "Ladrones," it is said, from the character of their inhabitants, the word meaning "thieves." Guam is the principal island and embraces nearly one-half of the entire area of the group. On June 20, 1898, Captain Glass, of the United States cruiser "Charleston" took possession of the islands in the name of the United States, and by the peace treaty signed at Paris, Dec. 18, 1898, it was

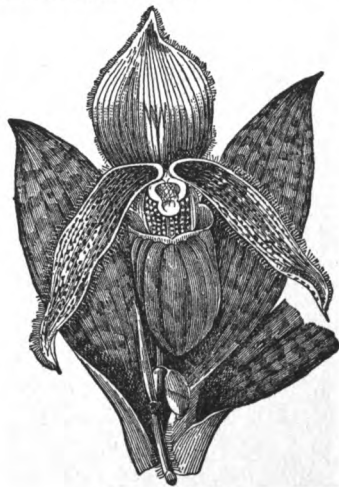
Lady's Slipper

provided that the island of Guam should be ceded to the United States. The remainder of the islands, together with the Carolines, became German territory, Oct. 1, 1899, on payment of \$4,187,500. After the World War these islands became Japanese mandates.

Ladybird, a genus of pretty little beetles, generally of a brilliant red or yellow color, with black, red, white, or yellow spots. The form is nearly hemispherical, the under surface flat, the thorax and head small, the antennae and legs short.

Lady Fern, a species with lanceolate, pinnate fronds, the pinnae again deeply pinnatifid. Also a beautiful fern with large, membranous, oblong, lanceolate, twice or thrice pinnate fronds, with close-set pinnules.

Ladysmith, a town in Natal, 180 miles from Durban. It has no commercial importance, but is of strategic value as a military base. In 1899-1900 it was a center of military operations, a siege by the Boers being gallantly withstood by a British garrison under General White.



LADY'S SLIPPER.

Lady's Slipper, a genus of plants. The genus is remarkable for the large inflated lip of the corolla. Several

very beautiful species are natives of the colder parts of North America.

Laennec, Rene Theodore Hyacinthe, a distinguished French physician; born in Quimper, Lower Brittany, France, Feb. 17, 1781. In 1816 he became chief physician to the Hospital Necker, where he soon after made the discovery of "mediate" auscultation, i. e., of the use of the Stethoscope. In 1819 he published his "Treatise on Mediate Auscultation," which has undoubtedly produced a greater effect, in so far as the advance of diagnosis is concerned, than any other single book. His treatise had not long appeared when indications of consumption were discovered in his own chest by means of the art of his own invention, and after a few years of delicate health, during which he continued to practise in Paris, he retired to die in his native province, Aug. 13, 1826.

Laertes, according to Homer, a King of Ithaca, and the supposed father of Ulysses.

Lætare Sunday, in the Roman Catholic Church, the 4th Sunday in Lent, called also Mid-Lent. From this name the characteristic of the services of the day is joyousness, and the music of the organ, which throughout the rest of Lent is suspended, is on this day resumed.

La Farge, John, an American artist; born in New York city, March 31, 1835. He studied under Couture in Paris, and with William M. Hunt; became a National Academician in 1869; and a member of the Society of American Artists in 1877. He was the designer of the "battle window" in Memorial Hall, Harvard University. In 1869 he was made president of the Society of American Artists. He published "Lectures on Art," and "An Artist's Letters from Japan." D. 1910.

La Fayette, Madame de, the reformer of French romance-writing; born in Paris, France, March 16, 1634. Her father was a marshal and governor of Havre. She married the Comte de La Fayette in 1655. She had a genuine command of passion and knowledge of character, and in her "Princess of Cleves" gave a vivid and faithful picture of the court-life of her day. A new edition of her

"Complete Works" appeared in 1882. She died in Paris in May, 1693.

Lafayette, Marie Jean Paul Roch Yves Gilbert Motier, Marquis de, a famous French military officer and statesman; born in the castle of Chavagnac, Auvergne, France, Sept. 6, 1757. He belonged to an ancient family; came to his estates at 13; married three years later; entered the army, and sailed, in spite of the opposition of the court, for America in 1777, to offer his sword to the colonists in their struggle for independence. He became an intimate and admiring friend of Washington, who gave him the command of a division after his conduct at the battle of Brandywine. The treaty between the insurgents and France at once led to war between France and England, and Lafayette returned to his country early in 1779. Six months later he again crossed the Atlantic, was charged with the defense of Virginia, and had his share in the battle of Yorktown, which practically closed the war. On a third visit to North America in 1784, after the conclusion of peace, he was received in such a manner that his tour was a continual triumph.

Lafayette had imbibed liberal principles in the freer air of America, and was eager for reforms in his native country. He was called to the Assembly of Notables in 1787, and sat in its successor, the Assembly of the States General, and in that which grew out of it, the famous National Assembly of 1789. He took a prominent part in its proceedings, and laid on its table, July 9, 1789, a Declaration of Independence. He was soon appointed to the chief command of the armed citizens, whereupon he formed the National Guard and gave it the tri-color or cockade.

After the adoption of the constitution of 1790 he retired to his estate of Lagrange till he received the command of the army of Ardennes, with which he won the first victories at Philippeville, Maubeuge, and Florennes. But the hatred of the Jacobins increased, and at length Lafayette, who had gone from the army to Paris, publicly to denounce the Jacobin Club, finding on his return to the camp that he could not persuade his soldiers to march to Paris to save the constitution, rode

over into the neutral territory of Liege. He was seized by the Austrians and imprisoned at Olmutz till Bonaparte obtained his liberation in 1797; but he took no part in public affairs during the ascendancy of Bonaparte. In 1830 he took an active part in the revolution and commanded the National Guards. In 1824 he revisited the United States, by invitation of Congress, which voted him a grant of \$200,000 and a township of land. He died in Paris, May 20, 1834. In 1898 the public school children in the United States contributed funds for a statue of Lafayette, in Paris.

Lafayette, city and capital of Tippecanoe county, Ind.; on the Wabash river, the Wabash & Erie canal, and several railroads; 63 miles N. W. of Indianapolis; is the seat of Purdue University (State) and the State Agricultural College; has an extensive trade in grains and vegetables, and large pork-packing and farm implement plants. Pop. (1930) 26,240.

La Fere, a fortified French town, on the Oise river, 13 miles S. W. of St. Quentin, the same distance from Laon, and 65 miles N. E. of Paris. It possesses an almost invaluable collection of paintings, some of which were injured when the Germans bombarded the town in 1870, and has a noted artillery school founded in 1719. The town was in the sphere of great operations in 1917 in the World War. Pop. about 6,000.

La Ferte-Milon, a town of France, in Aisne, on the Ourcq river, 43 miles from Paris and 47 W. by S. of Reims. It contains the ruins of a castle and fortifications built in the middle of the 15th century. Jean Racine, the poet, was born here. Pop. about 2,000. The town suffered in the Aisne campaign in the World War.

La Ferte-sous-Jouarre, a town of France, in Seine-et-Marne, on the Marne river, 11 miles E. of Meaux, 41 miles N. E. of Paris. It is noted for its millstones, quarries and its vineyards and formerly for its abbey founded in the 7th century, a 13th century tower of which remains. Pop. about 6,000. The town suffered in the Marne campaign in the World War.

La Follette, Robert Marion, an American lawyer; born in Primrose, Wis., June 14, 1855; was admitted to the bar in 1880; Republican; member of Congress in 1885-91; Governor of Wisconsin in 1901-5; U. S. Senator in 1905-17; re-elected for term of 1917-23. In 1924 was nominated for President by the Progressive party, but in elections in November received but 13 votes out of 531. Died in 1925.

La Fontaine, Jean de, one of the classics of French literature; born in Chateau-Thierry, Champagne, France, July 8, 1621. The last 35 years of his life were spent in Paris. The 12 books of his "Fables" were published in equal parts in 1668 and 1678. It is through them that La Fontaine is universally known. During the last two years of his life the religious sentiments of his early youth revived, and he performed severe penances for such of his works as strict morality could not approve of. He was admitted to the French Academy in 1684, conjointly with his friend Boileau, and died in Paris, April 13, 1695.

Lagan, or **Ligan**, in maritime law, goods found at such a distance from shore that it is uncertain what coast they would be carried to, and therefore belonging to the finder.

Lager, or **Lager Beer**. The word "lager," in German, means a "storehouse," and has given name to a beer much brewed in Bavaria, and far more extensively in the United States, owing to the fact that in the former country it is stored in cool cellars or vaults for several months prior to use. In the United States, however, this last requisite is generally much curtailed. Ordinary beers are fermented at high temperatures, while lager owes its peculiar properties to the comparatively slower kind of fermentation to which it is subjected.

Lagides, an Egyptian dynasty, the chief of which was Ptolemy, son of Lagus, a general of Alexander. It ruled in Egypt from the death of Alexander until the reduction of the country into a Roman province, 30 B. C., a period of 293 years.

Lagomys, a genus of rodents, much resembling hares or rabbits, but with limbs of more equal length, more per-

fect clavicles, longer claws, longer head, shorter ears, and no tail. There are about a dozen species, one in S. E. Europe, one on the Rocky Mountains, and the rest on the mountains of Northern Asia.

Lagoon, a shallow lake or sheet of water, connected with the sea or a river, found on the coasts of Holland, Italy, South America, etc. They sometimes are almost dried up in summer and become stagnant marshy pools. Also a sheet of water surrounded by an atoll.

Lagos, an island and strip of land in West Africa, formerly constituting a British colony and protectorate. In 1906 the name of the colony was changed to Southern Nigeria, and the administration of the Southern Nigeria Protectorate was placed under that of the new colony, which became officially known as the Colony and Protectorate of Southern Nigeria. Under this arrangement the former colony and protectorate of Lagos now forms the western of three provinces of Southern Nigeria, with the seat of administration at Lagos town. Area of former colony, 3,460 square miles; of former protectorate, 25,450 square miles; estimated pop. new (1914) 2,250,000; of Lagos Town (1921), 73,000.

Lagothrix, a genus of South American monkeys, characterized by their round head, a thumb on the anterior hand (a characteristic which distinguishes them from the Ateles), and the tail partly naked. The grison, or silver-haired monkey, is a species of this genus.

Lagrange, Joseph Louis, a French mathematician; born in Turin, Jan. 25, 1736. While still a youth he solved for Euler the "isoperimetrical problem"; when Euler died, he succeeded him as director of the Berlin Academy (1766), and held that office till 1787. In the meantime he contributed to the proceedings of the Academy a long series of memoirs, and wrote his greatest work, "Analytical Mechanics." After the death of Frederick the Great he removed to Paris; there he was lodged in the Louvre, and a pension was settled on him equal to that granted by Frederick. He remained in France during

the Revolution, safeguarded by the respect felt for his learning and his virtues even by the judges of the revolutionary tribunals. He died in Paris, April 10, 1813.

Laguna, a province of Luzon, Philippine Islands; area, 752 square miles; pop. (1903) 148,606; capital, Santa Cruz, at mouth of river of the same name; pop. 13,141.

La Harpe, Jean Francois de, a French writer; born in Paris, France, Nov. 20, 1739. His best known works are his critical lectures, published in 12 vols. (1799-1805) as "Lyceum, or Course in Literature," which long remained a standard of literary criticism. The Revolution, at its commencement, found no more ardent admirer than La Harpe; but after five months' imprisonment for refusing to countenance the extremes to which the immoderate zealots of the movement pushed matters his views changed, and he became a firm supporter of Church and crown. He died in Paris, Feb. 11, 1803.

Lahore, a city of Hindustan, India; capital of the Punjab, and administrative headquarters of Lahore division and district, on the left bank of the Ravi, 265 miles N. W. of Delhi; it is surrounded by a brick wall 16 feet high, flanked by bastions; area, 640 acres. The streets are extremely narrow, unpaved, and dirty, and the houses have in general a mean appearance. The European quarter lies outside the walls on the S., and dates from 1849. Pop. (1921) 281,800.

Laing, Alexander Gordon, a British African traveler; born in Edinburgh, Dec. 27, 1793. After serving in the army and attaining the rank of major, he entered in 1822 on his career as an African traveler. The results of his early journeys in West Africa were published in 1825. He explored the upper course of the Niger, and was assassinated by his guide near Timbuctoo, Sept. 26, 1826.

Laing, Malcolm, a Scotch historian; born on the mainland of Orkney, in 1762. He died in November, 1818.

Laissez Faire, a term applied to that manner of conducting a government in which the people are allowed to regulate themselves with as little

Lake

interference from the supreme authority as possible.

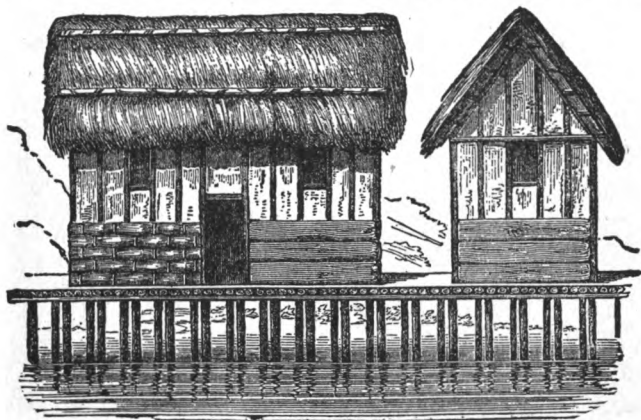
Lake, a large sheet or expanse of water entirely surrounded by land, and having no direct or immediate communication with any sea, ocean, or river, or having communication only by means of rivers. The largest fresh water lake on the globe is Lake Superior, in North America. It is 400 miles long, 160 miles wide at its greatest breadth, and has an area of 32,000 square miles.

Lake Dwellings. The earliest account of lake dwellings is to be found in Herodotus, who describes a

Lake

of round timbers, rarely of split boards, covered with a bed of mud; the walls and sides were in great measure of interlaced branches, the interstices filled with moss, and daubed with clay. In his opinion, all the evidence goes to show they were rectangular in shape. It is probable that the huts were thatched, and the parts used as dormitories strewn with straw or hay.

Also, artificial islands found principally in Ireland, where they served the purpose of strongholds. In this case "the support consisted not of piles only, but of a solid mass of mud,



LAKE DWELLINGS.

Thracian tribe living, in 520 B. C., in a small mountain lake of what is now Rumelia. The custom of constructing these habitations has come down to the present day. The fishermen of Lake Prasias, near Salonica, still inhabit wooden cottages built over the water, as the Thracian tribes did, and in the East Indies the practice of building lake settlements is very common.

The lake dwellings proper of Switzerland came to light during the winter months of 1853-1854, when the water of the lakes fell much below its ordinary level. Dr. Keller, who first described these lake dwellings, says that the main platform was made

of stones, etc., with layers of horizontal and perpendicular stakes, the latter serving less as a support than to bind the mass firmly together." They are of much later date than the lake dwelling proper, some being depicted in Johnson's "Platt of the County Monaghan," a map of the escheated territories made for the English government in 1591.

Lake Forest University, a co-educational institution in Lake Forest, Ill., founded in 1857 under the auspices of the Presbyterian Church.

Lake of the Thousand Islands, an expansion of the St. Lawrence extending about 40 miles below Lake

Lake of the Woods

Ontario. It contains about 1,500 rocky islets, the largest, Wolfe Island (48 square miles; pop. 2,383), measuring 21 miles by 7.

Lake of the Woods, a large lake of North America, studded with numerous wooded islands; length nearly 100 miles, circuit about 300 miles. It is mostly in Ontario, but extends also into Manitoba and Minnesota. It is fed by the Rainy river, and drained by the Winnipeg.

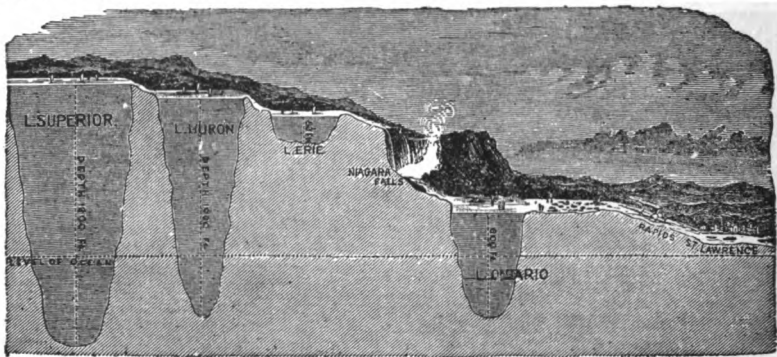
Lakes (originally prepared from lac, whence the name), pigments or colors formed by precipitating animal or vegetable coloring matters from their solutions chiefly with alumina or oxide of tin.

Lake State, The, a name given to Michigan. Its shores are watered by Lakes Superior, Michigan, Huron, and Erie. The Indian word Michigan signifies "great lake."

Lalande

of the lakes above the sea, and their fluctuations. Also determinations in the magnetic elements were made at various points. The picture shows the levels and depths of the system.

Lala, Ramon Reyes, an American author; born in the city of Manila, Philippine Islands, March 1, 1857; was educated at St. Xavier's College, Hong Kong, St. John's College, London, and at Neufchatel, Switzerland; traveled extensively; returned to Manila and engaged in business with his father. Owing to Spanish oppression he came to the United States, and was the first Filipino ever naturalized here. He became widely known in the United States as a lecturer on the people and land of his birth. He is the author of "The Philippine Islands" (1898) and of many magazine articles on Filipino subjects.



COMPARATIVE DEPTH AND ELEVATION OF THE GREAT LAKES.

Lake Survey, a complete survey of the American shores of the great lakes—Superior, Michigan, Huron, Erie, and Ontario—rendered necessary by the proximity in which vessels are at all times. It was commenced with an appropriation by Congress of \$15,000 in 1841, carried on under the direction of the Chief Engineer U. S. A., and completed in 1870. The developed line is 4,700 miles in length. Various points were developed during the survey, among them the existence of solar and lunar tides in Lakes Michigan and Erie, the heights

Lalande, Joseph Jerome Le-Francais de, a French astronomer; born in Bourg, Ain, France, July 11, 1732. Sent to Paris to qualify for an advocate, he was attracted to astronomy, which he studied under Delisle and Lemonnier. Later he was appointed one of the astronomers-royal, and in 1762 succeeded Lemonnier in the professorship of astronomy in the College de France, a post which he held during the remainder of his life. In 1795 he was appointed Director of the Paris Observatory. His principal work is "Treatise on Astronomy" (2

vols. 1764). He died in Paris, France, April 4, 1807.

Lally-Tollendal, Thomas Arthur, Count de Lally and Baron de Tollendal, a French general; born in Romans, Dauphine, France, in January, 1702. Lally distinguished himself as a soldier in Flanders, especially at the battle of Fontenoy; accompanied Prince Charles Edward to Scotland in 1745; and in 1756 was appointed commander-in-chief in the French East Indian settlements. He was at length defeated and conveyed as a prisoner of war to England. Hearing that he had been accused of treachery and cowardice in India, he obtained leave to proceed to France for the vindication of his character. There he was thrown into the Bastille, and condemned to death for betraying the interests of the king and the Indian Company, and the sentence was executed on May 9, 1766. But his son procured a royal decree in 1778, declaring the condemnation unjust.

Lamar, Joseph Rucker, an American jurist; born in Ruckersville, Ga., Oct. 14, 1857; admitted to the bar in 1879; practiced in Augusta, Ga., in 1879-1903; member of Legislature in 1886-89; commissioner to codify laws of Georgia in 1895; became a Justice, Supreme Court of Georgia, in 1903; Associate Justice, U. S. Supreme Court, in 1910. He died Jan. 1, 1916.

Lamar, Lucius Quintus Cincinnatus, an American jurist; born in Jasper co., Ga., Sept. 1, 1825. Admitted to the bar in 1847; he served two terms as congressman from Mississippi (1856-1860). In 1861 he entered the Confederate army, and after the war was Professor of Political Economy and Law Professor in the University of Mississippi, and member both Houses of Congress. In 1885 he was appointed Secretary of the Interior and in 1887 became an Associate Justice of the United States Supreme Court, bringing the resources of his intellect to the discharge of his duties. He died Jan. 24, 1893.

Lamar, Mirabeau, 2nd president of the republic of Texas; born in Louisville, Ga., Aug. 16, 1798. In 1835 he removed to Texas, then on the verge of revolution. He at once

threw himself into the cause of independence, and highly distinguished himself at the battle of San Jacinto. In 1836 he was elected vice-president, and in 1838 president of the new republic, holding the latter office till 1841. On the outbreak of the Mexican war he (with the rank of Major-General) served at the battle of Monterey under General Scott. He was afterward employed in operations against the Comanche Indians, and eventually appointed United States minister to Nicaragua and Costa Rica. He died in Richmond, Tex., Dec. 19, 1859.

Lamarck, Jean Baptiste Pierre Antoine de Monet, Chevalier de, a French naturalist; born Aug. 1, 1744; died Dec. 18, 1829. In his great work, the "History of Invertebrate Animals," he foreshadowed the theory of evolution. As a conchologist his name is perpetuated in the Lamarckian arrangement of shells.

Lamartine, Alphonse Marie Louis Prat de, French poet and statesman; born at Mâcon 1790; died at Passy, near Paris, in 1869. Buried at Saint-Point, near Mâcon.

Lamb, Charles, an English author; born in London, England, Feb. 10, 1775. He was educated at Christ's Hospital, where the poet Coleridge was his schoolfellow. Debarred from entering the clerical profession owing to an impediment of speech, he obtained an appointment in the South-Sea House, in 1789, which he quitted in 1792, to take a situation in the accountant's office of the East India Company, from which he retired in 1825 on a pension of \$2,250 per annum. In 1796 and 1797 some short poems by him appeared along with others by Coleridge, and in 1798 he published a volume of poems in conjunction with his friend Charles Lloyd. It met with little success. On the other hand, his tale of "Rosamund Gray" (1798) was well received when it appeared, and is still a favorite with those who have a taste for Lamb's writings. Almost all his other productions were contributions to different periodicals of his day. By far the best known, a series of essays, appeared first in the "London Magazine," under the name of "Elia." They have been frequently republished in a

collected form since 1823, latterly along with "Last Essays of Elia," first published in 1833. Here, in a style ever happy and original, and with humor of the rarest and most pungent description, he has carried the short essay to a point of excellence perhaps never before attained. He died in Edmonton, England, Dec. 27, 1834.

Lamb, Isaac Wixan, an American inventor; born in Salem, Mich., Jan. 8, 1840. He is known principally by his invention of a knitting machine which can produce more than 30 kinds of knit goods and make about 4,000 loops a minute at ordinary speed, besides turning out both flat and tubular work. Died in 1906.

Lamb, Martha Joan Reede Nash, an American historian; born in Plainfield, Mass., Aug. 13, 1829; received an excellent education; married Charles A. Lamb in 1852 and settled in Chicago, Ill.; was secretary of the United States Sanitary Commission Fair in 1863; settled in New York city in 1866 and devoted herself to literature, becoming editor of the "Magazine of American History" in 1883. She died in New York city, Jan. 2, 1893.

Lamech, a descendant of Cain, in the 5th generation, and ancestor of a numerous posterity distinguished for skill in agriculture, music, and several mechanical arts. He is the first polygamist on record.

Lamellibranchiata, a division of the higher mollusca, represented by the oysters, mussels, cockles, etc., which are distinguished by the possession of a bivalve shell, the absence of a distinct head, and the presence of four lamellar or plate-like gills (whence the name).

Lamellicornia, or **Lamellicornes**, a tribe of beetles having short antennæ terminated by a lamellated club—i. e., a club composed of lamellæ or little plates—formed by the expansion on one side of the three apical joints. The mentum is solid and horny; the legs are long, and have spines and tooth-like projections on the fore ones, enabling them to dig with facility.

Lamellirostres, a family of swimming birds, distinguished by the flat

form of the bill, which is invested by a soft skin, and provided at the edges with a set of transverse plates or lamellæ, through which the mud, in which these birds grope for food, is sifted or strained. The family comprises the ducks, geese, swans, flamingoes, etc.

Lamennais, Hugues Felicite Robert de, a French writer; born in St. Malo, June 19, 1782. He was ordained priest in 1817. The same year appeared the first volume of his "Essay upon Indifference in the Matter of Religion." He wrote also: "Sketch of a Philosophy," "Religion," and translated the Gospels, accompanying the text with notes. He died in Paris, Feb. 27, 1854.

Lamentations, one of the shorter books of the Old Testament. No author's name is attached to it in the Hebrew Bible, where it is simply designated from its first two words, *ek-hah*, "O how." The Septuagint translators called it "Threnoi Ieremion," "Dirges or Lamentations of Jeremiah." Universal tradition attributes it to him, and the style is that of his acknowledged prophecies.

Lamia, a monster said to inhabit the center of Africa, with the face and upper part of the body like a woman, and the extremities like a serpent. The first lamia, according to classic mythology, was the daughter of Neptune, who, having become insane through the jealousy of Juno, caught and devoured all new-born children she came across.

Laminarian Zone, in zoölogical geography, the second of the great marine zones into which mollusks are distributed, a zone from low water to 15 fathoms in depth.

Lamination, the arrangement of rocks in thin layers or laminae, the condition of a large proportion of the earth's strata. Shale deposits exhibit this structure very plainly, being frequently easily separable into the thin laminae in which they were originally deposited. Shale is the fine sediment that settles down at the bottom of some tranquil or slightly-moving water. The laminae indicate interruption in the supply of the materials, which may have been occasioned by successive tides, by frequent or periodical floods, or by the carrying medium

having access to a supply of different material, passing, e. g., from mud to sand, and back again to mud.

Lammergeier, a large bird of prey also called the bearded vulture or bearded griffin. The full-grown bird is of a shining brownish-black color on the upper parts, with a white stripe along the shaft of each feather; the head is whitish, with black stripes at the eyes; the neck and underpart of the body are rusty yellow. It is the largest bird of prey in the Old World, measuring almost 4 feet high when sitting, nearly 5 feet in length, and from 9 to 10 feet in expanse of wing. Though by no means brave, it is bold and rapacious, swooping down on hares, lambs, young goats, etc.

Lamon, Ward Hill, an American biographer; was a law partner of Abraham Lincoln, and after the latter's election as President became his private secretary and was appointed by him marshal of the District of Columbia. He died in Martinsburg, W. Va., May 7, 1893.

Lamont, Daniel Scott, an American executive officer; born in Cortlandville, N. Y., Feb. 9, 1851; was educated at Union College and engaged in journalism; private secretary to President Cleveland in 1885-1889 and Secretary of War in 1893-1897. He then became vice-president of the Northern Pacific Railway Company. Died July 23, 1905.

Lamont, Hammond, managing editor New York "Evening Post"; born in Monticello, Sullivan co., N. Y., Jan. 19, 1864; taught English at Harvard and Brown Universities, resigning from the latter in 1901 to take the managing editorship of the "Evening Post," of New York city; resigned in 1906 to become editor of "The Nation." Died 1909.

Lamont, Robert P., born Dec. 1, 1867, at Detroit, Mich. In manufacturing business. Colonel in War Department, 1918-19; appointed Secretary of Commerce, 1929.

La Motte, Jeanne de Valois, Comtesse de, a French adventuress; a descendant of the family of Valois by an illegitimate child of Henry II., and notorious for the part she played in the "diamond necklace" fraud; born in Champagne, July 22, 1756.

She married the Comte de la Motte, a penniless adventurer, and settled in Paris about 1780. She was killed in London by falling out of a window, Aug. 23, 1791.

Lamp, a vessel used for the combustion of liquid inflammable bodies, for the purpose of producing artificial light. The invention of the lamp is ascribed to the Egyptians. In treating of the construction of modern lamps it is necessary to take into consideration of the nature of the flame. In order to insure a constant and steady flame, it is necessary that the supply of combustible matter be steady and uniform. It must, therefore, be either in a liquid or gaseous state, so that it may approach the flame in an uninterrupted current. The combustible substance may either be made to approach the flame by capillary attraction through wicks, or by mechanical pressure a good lamp must have the following properties: It must be supplied with carbonaceous matter and with oxygen; it must convert the former into a gaseous state; and it must bring the gas so produced into contact with oxygen at such a temperature that the carbon will combine with oxygen in the highest degree without producing smoke.

Lampblack, the soot or amorphous carbon obtained by burning bodies rich in that element, such as resin, petroleum, and tar, or some of the cheap oily products obtained from it. A large quantity of lampblack has been made in the United States by the imperfect combustion of natural gas. Lampblack is a useful pigment for artists both in oil and water color, a coarser kind being employed by house-painters.

Lamprey, The sea or spotted lamprey is an eel-like fish, nearly three feet long, greenish-brown, marbled with darker brown and green on the back and sides. It attaches itself to rocks, boats, and to other fishes, by the mouth, exhausting the air.

Lancaster, city and capital of Lancaster county, Pa.; on the Pennsylvania and other railroads; 69 miles W. of Philadelphia; settled in 1729; State capital in 1799-1812; home of President Buchanan; seat of Franklin and Marshall College (Ref.), Reformed Theological Seminary, Lan-

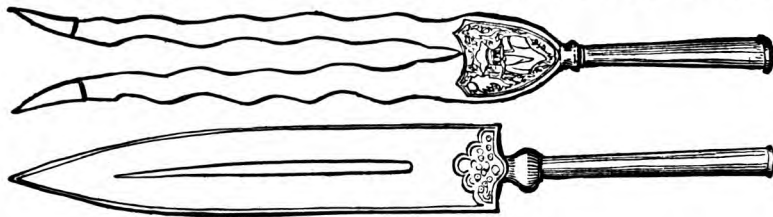
caster, County, and St. Joseph's hospitals, and Children's Home; is one of the largest tobacco markets in the country; has large manufacturing interests. Pop. (1928 Est.) 58,300.

Lancaster, the name of a royal English house which flourished in two lines in the 13th, 14th and 15th centuries. The first commences with Edmund, son of Henry III. and Eleanor of Provence, and brother of Edward I. Thomas, his son and successor in the earldom, cousin-german to Edward II., headed the confederacy of barons against Piers Gaveston, and finally shared the responsibility of his death with Hereford and Arundel. Henry (previously Earl of Leicester), brother and heir of Thomas, joined the conspiracy of Isabella and Mortimer against Edward II., and received the king into his custody at Kenilworth. Henry, his son (previously Earl of Derby), after vainly endeavoring to

personal reasons. He became king by deposing Richard II., 1399, and was a prince of great ability and valor. He reigned as Henry IV. till his death in 1422, and was succeeded by his son, Henry V. The son of the latter also inherited the crown as Henry VI., and in his reign the feuds of York and Lancaster broke out, which ended in the union of the two houses in the person of Henry VII.

Lance, a weapon consisting of a long shaft with a sharp point, much used, particularly before the invention of firearms. It is a thrusting weapon used on foot, but chiefly on horseback. In the Middle Ages the lance was held in the highest repute by knights and men-at-arms who formed the main strength of European armies.

Free lance: Formerly a mercenary soldier, owing allegiance to no one permanently; hence a person who is



BEDOUIN LANCE HEADS.

make peace with John, King of France, under the mediation of the Pope at Avignon, was sent with an army into Normandy, and took part in the victory of Poitiers and the subsequent French wars. The next Duke of Lancaster commences a new lineage that of the princes opposed to the house of York. The first in the line was John of Gaunt, or Ghent, third son of Edward III. His name is one of the most celebrated in English history and in the chivalry of the Middle Ages. Henry of Hereford, the successor of John of Gaunt in the dukedom, was son to him by his first wife. He claimed the crown by descent, by the mother's side, from Edmund the first earl, who was popularly supposed to be the elder brother of Edward I., and to have been deprived of the succession by his father for

free to assail any party or principle and is not pledged to any one more than temporarily.

Stink-fire lance: A fuse which, when ignited, emits a suffocating odor, and is used in military mining operations to dislodge counter-miners.

In carpentry, a pointed blade, usually employed to sever the grain on each side of the intended path of a chipping bit or router. It is used in crozes, planes, and gauges of certain kinds.

In the Greek ritual, a small knife used in the early part of the present Greek liturgy to divide the Host from the holy loaf. The action commemorates the piercing of our Lord's side. The priest makes four cuts in the loaf, and stabs it more than once, accompanying each action with appropriate texts of Scripture.

Lancelet, a transparent and iridescent fish about three inches long, with a fin extending nearly from the snout to the hinder extremity. The skeleton is imperfectly developed, the blood



LANCELET.

colorless; no proper skull or brain. It has affinities to the Ascidian. Its movements are active. It is found in temperate and tropical seas.

Lancer, a cavalry soldier armed with a lance. Lancers were introduced into European armies by Napoleon I., after the pattern of those in the Polish service. In dancing, the "lancers" are a certain set of quadrilles.

Lancelot of the Lake, the hero of a celebrated Middle-Age romance which was originally written in Latin by an unknown author, and afterward translated into Anglo-Norman by Walter Map.

Lancewood, a wood valuable for its great strength and elasticity. A species yields the wood called white lancewood, which, however, is not much used. Lancewood is of great value to coach-builders, by whom it is used for shafts and carriage poles, for which it is especially fitted. It comes in small quantities from the West Indies, chiefly from Jamaica.

Landau, a town of the Bavarian Palatinate, 11 miles W. of the Rhine

and 17 S. W. of Spire. Founded and made an imperial city in the 13th century, it has some interesting old churches and played a prominent part in history as a fortress. During the Thirty Years' War it was taken eight times; in 1688 it was fortified by Vauban for Louis XIV., but surrendered four times during the war of the Austrian Succession. In 1816 Bavaria became mistress of it; and in 1870-1871 its fortifications were levelled to the ground. Pop. 13,617.

Lande (French), a healthy and sandy plain unsuited for bearing grain. From the vast extent of landes (about four-fifths of the total area) which it contains, the third department of France, in point of size, derives its name.

Lander, Frederick West, an American military officer; born in Salem, Mass., Dec. 17, 1821; became a civil engineer; made surveys across the continent for the United States government for the purpose of finding a suitable route for a transcontinental railroad; served in the Army of the Potomac in the early part of the Civil War; died in Paw Paw, Va., March 2, 1862.

Lander, Jean Margaret, an American actress; born in Wolverhampton, England, May 3, 1829; followed her profession in the United States in 1838-1842; played as Julia in "The Hunchback" in England and Holland during 1842-1848; settled in the United States in 1849, and married Gen. Frederick West Lander, Oct. 12, 1860. During the Civil War she was active in the National Hospital service. Shortly after she retired from the stage. Died August, 1903.

Lander, Richard Lemon, an English explorer and discoverer of the mouth of the Niger; born in Truro, Cornwall, Feb. 8, 1804; died in Fernando Po, Feb. 16, 1834.

Land Grant, a grant made by Congress to assist railroad companies to secure funds, by the sale of bonds secured by lands so granted, to construct lines of railway through parts of the United States where the local traffic would not pay the running expenses. About 215,000,000 acres of land were given to the various railroads of the country by the government. The Illinois Central received a

strip of land 12 miles wide, running the whole length of Illinois; the Northern Pacific received 47,000,000 acres; the Atlantic and Pacific, 42,000,000; the Union Pacific, 13,000,000, and other roads in proportion. Congress has also made many grants of land to the several States and Territories to promote public education.

Land League, an association projected by Charles S. Parnell, which came into being at a meeting held in Dublin, Nov. 18, 1879. Nominally the programme was the "three F's"—fixity of tenure, fair rent, and free sale (of the tenant's interest); but many speakers at Land League meetings went so far as to demand that the soil should belong to the cultivator. Opposition by direct violence was deprecated, and recourse was had to boycotting. This state of things continued till the end of 1880, when 14 members of the Land League, of whom the most important were Parnell, Dillon, Biggar, T. D. Sullivan, and T. Sexton, were indicted. The trial, which took place early in 1881, was a fiasco, but it drew from Justice Fitzgerald the declaration that the Land League was an illegal body. On Oct. 7, Gladstone denounced Parnell, and soon afterward Parnell, Dillon, Sexton, O'Kelly, and the chief officials of the League, were arrested and imprisoned in Kilmainham. They issued a manifesto calling on the Irish tenants to pay no rent during their imprisonment. The government replied by declaring the Land League an illegal body, and suppressed its branches throughout the country.

Land of Bondage, a Scripture name for Egypt, in allusion to the harsh treatment received by the Israelites during the latter part of their sojourn in that country.

Land of Steady Habits, a phrase applied to Connecticut. The term contains an allusion to the gravity of its people and the uniformity of its customs.

Land of the Bee, Utah; in allusion to the busy industry of its population.

Land of the Midnight Sun, Scandinavia—Norway, Lapland, Sweden, Iceland, etc.—so called by Du Chaillu, who published a book bearing the title.

Land of the Stars and Stripes, the United States—in allusion to the National ensign.

Landon, Melville de Lancey (pseudonym Eli Perkins), an American humorist; born in Eaton, N. Y., Sept. 7, 1839; wrote: "Saratoga in 1901"; "Eli Perkins's Wit, Humor, and Pathos"; etc. He died in 1910.

Landor, Walter Savage, an English poet; born in Warwick, England, Jan. 30, 1775. He was educated at Rugby and Oxford. During the Peninsular War, raising a troop of cavalry at his own cost, he fought for the Spanish cause till the restoration of Ferdinand VII. After his marriage, in 1811, he took up his abode in Florence, where he resided for several years, and where many of his works were written. He afterward returned to England and remained there for some years absorbed in literary occupations, but, his eccentric temper constantly involving him in difficulties and litigation, he went back to Italy. His principal poetical works are "Hellenics"; "Poems and Inscriptions"; "Dry Sticks"; and "Last Fruit of an Old Tree." His most important prose work is the "Imaginary Conversations of Literary Men and Statesmen," which appeared in five volumes between 1824 and 1829. He died in Florence, Italy, Sept. 17, 1864.

Landscape-gardening, an art which deals with the disposition of ground, water, buildings, trees and other plants which go to the composition of verdant landscape. Such in a broad sense is the definition of the art; for it may be employed to create a beautiful and harmonious scene where only nature in barren wildness reigned before, or to merely improve and adapt existing natural beauties and resources to the requirements of taste and convenience. Landscape-gardening has been practised from the earliest dawn of civilization.

Landseer, Sir Edwin, an English painter; born in London, England, March 7, 1802. He began to draw animals when a mere child; at 13 he exhibited at the Academy, and the year following became a student. Henceforward he exhibited regularly at the Academy and the British Institution. In 1826 he was elected A.

R. A.; in 1830, R. A.; in 1850 he was knighted, and in 1865 he declined the presidency of the Academy. He took the very highest rank among animal painters; and though he was blamed for introducing too human a sentiment and expression into some of his animals, the humor and pathos of animal nature has had no finer exponent.

Thomas Landseer (1795-1880), brother; was celebrated as an engraver, and made many reproductions of his brother's works. **John Landseer** (1769-1852), engraver, father of the above. He was elected associate engraver of the Academy, 1807; lectured on, and published several treatises on art.

Land's End, the extreme W. point of England, forming part of the county of Cornwall.

Lane, Franklin Knight, an American statesman; born on Prince Edward Island, July 15, 1864; was graduated at the University of California in 1886; admitted to the bar in 1889; corporation counsel, San Francisco, in 1897-1902; member of Interstate Commerce Commission in 1905-1913; Secretary of the Interior in 1913-1921. Died, 1921.

Lane, Joseph, an American military officer and politician; born in Buncombe co., N. C., Dec. 14, 1801. In 1821 he settled on a farm in Indiana, and the next year was returned to the Legislature. His representative career thenceforward extended over 25 years. In 1846, on war breaking out with Mexico, he resigned his senatorial seat and volunteered as a private soldier. He was almost immediately appointed colonel, and then directly afterward received from President Polk a Brigadier-General's commission. At the conclusion of the war he was brevetted a Major-General, and in August, 1848, was appointed governor of Oregon Territory, from which office he was removed by President Taylor. In 1859, on the admission of Oregon into the Union as a State, represented it as United States Senator, and in 1860 was nominated on the unsuccessful Breckinridge ticket for the vice-presidency of the United States. He died in Oregon, April 19, 1881.

Lanfranc, 1st archbishop of Canterbury after the Norman Conquest;

born in Pavia, Italy, about 1005. He was educated at Pavia for the law; about 1039 he left Italy, and founded a school of law at Avranches, which soon became one of the most popular in France; three years later took the monastic vows at the Benedictine monastery of Bec, and in 1046 was chosen its prior. He died in May, 1089, leaving commentaries, sermons, letters, and a work against Berengar.

Lang, Andrew, a British author; born in Selkirk, March 31, 1844. He was educated at Edinburgh Academy, St. Andrew's University, and Balliol College, Oxford, where he took a distinguished position. A versatile writer, he published several volumes of ballads and other light verse; "Ballads and Lyrics of Old France," "Ballades in Blue China," "Custom and Myth," etc. He was a frequent contributor to periodical literature. He died July 20, 1912.

Langdon, John, an American statesman; born in Portsmouth, N. H., June 25, 1741. He aided the Revolution with money contributions and led a company at Saratoga and Bennington. He was a member of the Continental Congress and of the convention which framed the Constitution of the United States. He was governor of New Hampshire in 1788, from 1805 to 1809 and from 1810 to 1812, and United States Senator from 1789 to 1801. He died in Portsmouth, N. H., Sept. 18, 1819.

Langley, Samuel Pierpont, an American physicist and astronomer; born in Boston, Mass., Aug. 22, 1834; was graduated at the Boston High School; was Professor of Mathematics for a time in the United States Naval Academy. He designed the system of railway-time service from observations which later came into general use; discovered an unknown extension of the invisible solar spectrum; and made numerous experiments to perfect an aerial machine which could support itself in mid-air and move freely without the aid of a balloon. He became secretary of the Smithsonian Institution in 1887; and was a member of many learned societies in the United States and Europe. His publications include "The New Astronomy"; "Researches on Solar Heat"; "Experiments in Aero-

dynamics"; "Internal Work of the Wind"; etc. In 1903, his experiments with a flying machine on a practical scale were unsuccessful, and government aid was withdrawn. He died Feb. 27, 1906.

Langtry, Lillie, an English actress; daughter of the Rev. W. C. Le Breton, Dean of Jersey; born in 1852; in 1874 married a Mr. Langtry of Belfast, and by her beauty became known as the "Jersey Lily." Acted also in U. S. Remarried in 1899, her second husband being Hugo de Bathe. Died Feb. 17, 1929.

Lanier, Sidney, an American poet; born in Macon, Ga., Feb. 3, 1842. He served in the Confederate army as a private soldier; after the war studied law, and for a while practised it at Macon; but abandoned that profession and devoted himself to music and poetry. From 1879 till his death he was lecturer on English literature in Johns Hopkins University. The poem "Corn," one of his earliest pieces, and "Clover," "The Bee," "The Dove," etc., show insight into nature. His poetic works were collected and published after his death. He wrote also several works in prose, mostly pertaining to literary criticism and to mediæval history: among the former are "The Science of English Verse"; "The English Novel and the Principles of its Development." He died in Lynn, N. C., Sept. 7, 1881.

Laniidæ, or **Laniadæ**, a family of thrush-like perching birds. The bill, which is long, has a deep notch or prominent tooth near the tip of the upper mandible, which is hooked. Its base is furnished with bristles; the wings are of moderate size, the tail long and rounded, the claws long, curved, and acute. They somewhat approach the raptorial birds, but have not, like them, retractile claws.

Lanigan, George Thomas, an American journalist and poet; born in Canada, Dec. 10, 1845. In Montreal, with Robert Graham, he founded the "Free Lance," a journal of satire and humor; afterward published under the name "Evening Star." In the United States he was connected with various journals. His writings include "Canadian Ballads," and "A Threnody" (for the Ahkoon of Swat), the latter one of

his most successful humorous poems. He died in Philadelphia, Pa., Feb. 5, 1886.

Lanman, Charles, an American author; born in Monroe, Mich., June 14, 1819; was private secretary to Daniel Webster in 1850 and secretary of the Japanese legation in Washington in 1871-1882. He was among the first to explore the mountains in North Carolina, and was author of "A Tour to the River Saguenay"; "Private Life of Daniel Webster"; etc. He died in Washington, D. C., March 4, 1895.

Lanman, Charles Rockwell, an American educator; born in Norwich, Conn., July 8, 1850; was graduated at Yale College in 1871; at Johns Hopkins University in 1876-1880, and then became Professor of Sanskrit at Harvard College. His publications are very scholarly.

Lansdowne, Henry Charles Keith Petty-Fitzmaurice, 5th Marquess of, an English statesman; born Jan. 14, 1845; became Governor-General of Canada in 1883, and Viceroy of India in 1888.

Lansing, city and capital of Ingham county and of the State of Michigan; on the Grand river and the Michigan Central and other railroads; 85 miles N. W. of Detroit; is the manufacturing and farming trade center of a large section; contains the State Capitol and several State and Federal buildings and is the seat of a large beet-sugar industry. Pop. (1930) 78,397.

Lansing, Robert, an American statesman; born in Watertown, N. Y., Oct. 17, 1864; was admitted to the bar in 1899; associate counsel for the United States in the Bering Sea Arbitration, 1892-3; counsel for U. S. Bering Sea Claims Commission, 1896-7; solicitor for the United States before the Alaska Boundary Tribunal, 1903; counsel North Atlantic Coast Fisheries Arbitration at the Hague, 1909-10; U. S. Agent in American and British Claim Arbitration, 1912-14; counselor for the Department of State, 1914-15; Secretary of State, 1915-20. Died, Oct. 1928.

Lanza, Marchioness, Clara, an American novelist; daughter of the late Surgeon-General Hammond.

Among her works are: "Tit for Tat"; "Mr. Perkins's Daughter"; "A Golden Pilgrimage"; etc.

Laocoon, according to classic legend, a priest of Apollo, afterward of Poseidon, in Troy, who married against the will of the former god, and who warned his countrymen against admitting the wooden horse into Troy. For one or both of these reasons he was destroyed along with his two sons by two enormous serpents which came up out of the sea.

Laodamia, in Greek heroic history, the daughter of Acastus and wife of Protesilaus. Her husband was the first of all the Greeks who fell by a Trojan hand, being killed as he leaped on shore from his ship. Laodamia prayed of the gods to give him back to her for but three hours. Her prayer was granted; Hermes led him back to the upper world; and, when the fatal moment to return had come, Laodamia died with him.

Laodicea, in ancient geography, the name of several towns of Asia, the most important of which was a city of ancient Phrygia, near the river Lycos, so called after Laodice, Queen of Antiochus Theos, its founder, built on the site of an older town named Diospolis. It was destroyed by an earthquake during the reign of Tiberius, but rebuilt by the inhabitants, who were very wealthy. Its luxury in the early times of Christianity is attested by the severe rebuke addressed to its inhabitants in the Apocalypse. It fell into the hands of the Turks in 1255, was again destroyed in 1402, and is now a heap of uninteresting ruins, known by the name of Eski-Hissar.

Laodocus, the son of Antenor the Trojan, whose form Pallas assumed when she wanted Pandarus to break the truce agreed on between the Greeks and Trojans, by throwing a dart at Menelaus.

Laomedon, son of Ilius, King of Troy, and father to Priam and Hesi-one. He built the walls of Troy, assisted by Apollo and Neptune. When the walls were finished, Laomedon refused to reward the labors of the gods, and, soon after, his territories were laid waste by the sea, and his subjects visited by a pestilence. Sacrifices were offered to the offended divinities, but nothing could appease the gods,

according to the oracle, save annually to expose to a sea-monster a Trojan virgin. Laomedon was put to death after a reign of 29 years, and his son Priam placed on the throne.

Laon, the chief town of the French department of Aisne; 87 miles N. E. of Paris. Occupying a naturally strong position, it has been a fortress since the 5th century; its citadel is surrounded with ruinous walls. From 515 to 1790 it was the seat of a bishop. The cathedral, a Gothic edifice of the 12th century with a handsome facade, and the bishop's palace, now used as a law-court, still remain. In the 10th century the city was the place of residence of the Carolingian kings, and capital of Francia. At Laon, March 9 and 10, 1814, Napoleon I. was repulsed by the allies under Blucher and Bulow; and it surrendered to a German force, Sept. 9, 1870. The town was in the sphere of operations in the Aisne campaign in the World War. Pop. (1921) 15,260.

Laos, a territory in the Indo-China peninsula, surrounded by the Shan States Annam, Tonking, and the Chinese province of Yunnan; area, estimated, 116,000 square miles; pop. est. 1,500,000; the soil is fertile, producing rice, cotton, tobacco, and fruits, and bearing teak forests; gold, tin, lead, and precious stones are found.

Lapis Lazuli, a mineral of beautiful ultramarine or azure color, consisting chiefly of silica and alumina, with a little sulphuric acid, soda, and lime. The color varies much in its degree of intensity. It is generally found massive, and is translucent at the edges, with uneven, finely granular fracture, but sometimes appears crystallized in rhombic dodecahedrons, its primitive form. It is found associated with crystalline limestone among schistose rocks and in granite, in Siberia, China, Tibet, Chile, etc. The finest specimens are brought from Bokhara. It seems to have been the only stone of any intrinsic value known to the Egyptians under the Pharaohs. The ancients used it much for engraving, for vases, etc. It is extensively employed in ornamental and mosaic work, and for sumptuous altars and shrines. It is easily wrought and takes a good polish. The valuable pigment called ultramarine is made

from it. It is one of the minerals sometimes called azure stone.

Laplace, Pierre Simon, Marquis de, a celebrated French mathematician and astronomer; born in Beaumont-en-Auge, Calvados, France, March 28, 1749. At the age of 24 he was admitted into the Academy of Sciences, and from this time devoted himself with ardor to the composition of a series of memoirs on the most important questions of physical astronomy and to the development in all their details of the consequences that result from the general laws which regulate the system of the universe. Besides these and other researches connected with the improvement and extension of mathematical science, his attention was turned successfully to the investigation of the principles of, and to experimental researches in, chemistry; and associated with Lavoisier, he was the first to repeat in France the experiments of Cavendish to effect the decomposition of water.

At the establishment of the Polytechnic School he was appointed one of its professors. In 1796 he did homage to the Council of Five Hundred by presenting to them his "Exposition of the System of the Universe," a work which was received by the scientific world in general with unbounded admiration. In 1799 he was nominated by the consuls to the ministry of the interior. His success as a minister of State was by no means commensurate with his high reputation as a mathematician and after six weeks he was superseded. The same year he was called to a place in the Senate, of which body he was subsequently vice-chancellor and president.

In 1806 Laplace was raised to the dignity of count of the empire. But though he was indebted for all these offices and honors to the personal favor of Bonaparte, yet, on the emperor's reverse of fortune in 1814, he was one of the first to push matters to extremity against his former benefactor, and to vote for the overthrow of the imperial power and the establishment of a provisional government. On the reestablishment of the Bourbons the facility with which he had deserted his former master and his zeal in the service of the restored dynasty were rewarded with the title of marquis and a seat in the Chamber of

Peers. In 1816 Laplace was named a member of the French Academy, an honor to which he was eminently entitled by the admirable clearness, and purity, and elegance of his style. He died in Paris, March 5, 1827. Almost any one of his original researches, contained in his great work the "Celestial Mechanism," and the general method of the "Theory of Probabilities" for the approximation to the values of definite integrals, are alone sufficient to stamp him as one of the greatest of mathematicians. His discovery of the cause of the discrepancy between the theoretical and the observed velocity of sound, his rules for barometrical measurement, his theories regarding capillary attraction, tides, atmospheric refraction, the static properties of electricity, etc., prove that in some of the most important departments of physics his mind was not less profitably and actively engaged than in mathematical analysis. Astronomy owes to his labors the discovery of the invariability of the major axes of the planetary orbits, and of the great inequality in the motions of Jupiter and Saturn; the solution of the problem of the acceleration of the mean motion of the moon, the theory of Jupiter's satellites, and other important laws, and it was he who first propounded the nebular hypothesis. Laplace was styled by Airy "the greatest mathematician of the past age."

Lapland, the collective name for the extensive region in the N. of Europe inhabited by Lapps. Pop. about 37,500, thus distributed: 18,590 in Norway, 7,144 in Sweden, 1,659 in Finland, and also 10,017 in Alaska. Norwegian Lapland is a mountainous country, its coasts cleft by the narrow, steep-walled fjords; in Swedish Lapland the most characteristic features are ridges with narrow valleys between, the latter generally partly filled with long, narrow lakes; farther E., in Finnish and Russian Lapland, the surface is more level, the rivers and lakes become more numerous, marshes are frequent, and next the Arctic Ocean barren tundras, and many square miles are covered with forests of fir and spruce, yet low ranges of hills occur in some districts, as, for instance, the Umbek Mountains, in the peninsula of Kola. Some of the lakes are of

La Plata

large size. The river Tana, which flows N. to the Arctic Sea, is the second longest river of Norway; and several other rivers of considerable size flow into the White Sea and the Gulf of Bothnia, as the Tulom, the Kemi, etc. The summer is short and comparatively hot, owing to the fact that the sun scarcely ever sinks below the horizon during the three months that summer lasts; during this period the mosquitoes are a terrible plague. For seven or eight weeks in winter the sun does not rise above the horizon; comparative darkness prevails all the time, except when the snow-covered landscape is illuminated by the aurora borealis; the cold in winter is excessive; but owing to the prevalent stillness of the air the cold is not felt so severely as might be expected.

La Plata, the capital of the Argentine province of Buenos Ayres, founded in 1882, after Buenos Ayres city, from which it is about 30 miles S. E., had been made the federal capital; a canal connects a harbor which has been constructed at La Plata with a larger outer harbor at Ensenada, on the La Plata river; pop. (1924) 151,000.

La Plata, Rio de, a wide estuary of South America, between Uruguay on the N. and the Argentine Republic on the S., through which the waters of the Parana and the Uruguay sweep down to the ocean; length about 200 miles, width 28 miles at Buenos Ayres, and 140 miles at its mouth, between Maldonado and Cape San Antonio. The affluents of the La Plata drain an area estimated at 1,600,000 square miles, and the outflow of the estuary is calculated at about 52,000,000 cubic feet per minute—a volume exceeded only by that of the Amazon; the yellow, muddy stream is recognizable 60 miles out at sea. The estuary was discovered in 1515 or 1516 by Diaz de Solis, who was shortly afterward roasted and eaten by the Indians on its bank.

Lapps, the inhabitants of Lapland. The Lapps are usually distinguished as Mountain, Sea, Forest, and River Lapps. The Mountain Lapps, the backbone of the race, are nomads; they move constantly from place to place in order to find sustenance (Arctic moss) for their reindeer herds. The

Larboard

Sea Lapps, mostly impoverished Mountain Lapps, or their descendants, dwell in scattered hamlets along the coast, and live by fishing. The Forest and River Lapps have taken to a settled mode of life; they not only keep domesticated reindeer, but hunt and fish. The Lapps all profess Christianity; those of Norway and Sweden belong to the Lutheran Church, those of Russia to the Greek Church.

Lapwing, in ornithology, the genus *Vanellus* and species *V. cristatus*. The specific name refers to the occipital feathers of the male in winter, which are very loose, long, and curved upward, so as to constitute an erectile crest. Albinos sometimes occur. It is seen in spring flying over fields, turning somersaults in the air, and uttering a musical cry, from which it is often called peewit. It lays four eggs, and lures intruders away from its nest by simulating lameness. The "lapwing" of Scripture (Lev. xi: 19, Deut. xiv: 18) is probably the hoopoe.

Lar, plural **Lares**, more rarely **Lars**, a tutelary divinity, usually a deified ancestor or hero. The worship of Lares was very prevalent among the Romans. They were of two kinds: domestic and public. Of the former the Lar familiaris, regarded as the founder of the family, and inseparable therefrom, was the most important, and corresponded to the eponymic hero of the Greeks. The latter were divided into *Præstites*, guardians of a whole city; *Compitales* watching over a certain portion of a city; *Rurales*, gods of the country; *Viales*, protecting travelers; and *Marini* or *Ferמרini*, gods of the ocean.

Laramie Mountains, a range which extends through Wyoming and Colorado, and bounds the Laramie Plains on the E. and N. E.; the highest point is Laramie Peak, 10,000 feet high.

Laramie Plains, a plateau in Southern Wyoming, N. W. of Cheyenne, about 7,500 feet above sea-level.

Laramie River, a river rising in Northern Colorado and flowing into the North Platte at Fort Laramie in Eastern Wyoming; length about 200 miles.

Larboard, the left side of a vessel to a person standing on deck and

facing the bow. Port is now substituted for larboard.

Larceny, in law, the unlawful taking or attempting to carry away the personal property of another, with intent to appropriate. In the United States in the different States larceny is variously graded into grand and petit larceny, or simple and compound.

Larch, a deciduous tree, growing rapidly, and furnishing a durable timber. The bark is used in tanning, being second in value in this respect only to oak.

Larcom, Lucy, an American poet; born in Beverly Farms, Mass., in 1826. In her youth she was a factory girl in Lowell, Mass., and was a contributor to the "Lowell Offering," a magazine conducted by the workers in the cotton mills of that city; was a student for a time at Monticello Seminary, Godfrey, Ill.; afterward taught school; but the greater part of her life was devoted to literary work. In 1866-1874 she was editor of "Our Young Folks." She wrote stories and four or five volumes of poetry. She died in Boston, Mass., April 17, 1893.

Lardner, Dionysius, an English cyclopædist; born in Dublin, Ireland, April 3, 1793. After four years as clerk to his father, a solicitor, he entered Trinity College. He is best known as the originator and editor of "Lardner's Cyclopædia" (132 volumes, 1830-1844). He came to the United States and lectured. He died in Naples, Italy, April 29, 1859.

Lareau, Edmund, a French Canadian author; born in St. Gregoire, Quebec, March 12, 1848. He was educated at the College of Ste. Marie de Mannoir, at Victoria College, and at McGill University. He was called to the bar. His works, written in French, include histories of Canadian law and literature. He died in 1890.

Largo, in music, an Italian word, denoting very slow time, and especially in composition where the sentiment is quite solemn. Larghetto is the diminutive of largo, the time being slightly quicker.

Lariat, a lasso; a long cord or thong of leather, with a running noose, used in catching cattle, horses, etc. Also a rope used for picketing horses,

permitting them a limited circle in which to graze.

Laridæ, gulls; a family of seabirds, commonly placed under swimmers. Species exist on the coasts of most countries.

Larissa, famous in ancient times as the chief town of Thessaly, now the capital of the nomarchy of Larissa in Northern Greece. It was the center of the Turkish operations in the war of Greek liberation; it was ceded by Turkey to Greece in 1881.

La Rive, Auguste de, a Swiss physicist; born in Geneva, Switzerland, Oct. 9, 1801. He was especially interested in researches in electricity as well as in investigations of the specific heat of gases, etc., and made some valuable discoveries in magnetism, electro-dynamics, etc. The process of electro-gilding was invented by him. He died in Marseilles, France, Nov. 27, 1873.

Lark, the name is given in the United States to one of the Sturnella family, the meadow or field lark, and in Australia to the bush lark. The sky-lark extends all through Europe and Asia, as far as China.

Larkspur, a showy and popular genus of garden flowers, natives of the temperate and cold regions of the Northern Hemisphere, and comprising both annual and perennial species.

Larnaka (ancient Citium), the chief port of Cyprus. A small fort built by the Turks in 1625 is now used as the district jail. Even if Citium be not the Chittim of the Old Testament, it is certain that the King of Citium paid tribute to the Assyrian Sargon in 707 B. C., as appears from a cuneiform inscription on a bas-relief dug up at Larnaka in 1846, and now in the museum at Berlin.

La Rochefoucauld, Francois Duc de, and **Prince de Marsillac**, distinguished French courtier and man of letters; born at Paris in 1613; died 1680. His chief works are his "Mémoires," and his "Réflexions on Sentences et Maximes Morales."

Larochejacquelein, Du Verger de, an old noble family of France. Henri, Comte de Larochejacquelein; born Aug. 30, 1772, near Chatillon; was an officer in the King's guard, and he was killed in a battle at

Nouaille, March 4, 1794. His brother, Louis du Verger, Marquis de Laroche-Jacquelein, born Nov. 29, 1777, emigrated at the commencement of the Revolution; returned to France and in 1813 placed himself at the head of the royalists in La Vendée. He fell in battle at Pont-des-Mathis, June 4, 1815. His wife, Marie-Louise Victoire, Marquise de Larochejacquelein (1772-1857), published "Memoirs" of the war, which are of value to the historian.

La Rochelle, a seaport of France, on an inlet of the Bay of Biscay, formed by the islands Re and Oleron. The inner harbor has two basins, in which ships of any size may remain afloat. By the marriage of Eleanor of Guienne with Henry Plantagenet, afterward Henry II., May 18, 1152, this town came into the hands of the English, and was captured by Louis VIII. in 1224. In 1360 it was ceded to England, but was recovered by Bertrand du Guesclin in 1372. The Huguenots held it from 1557 to Oct. 28, 1628, when it surrendered to Louis XIII. They sustained a siege from December, 1572 to 1573, when peace was made. It was again fortified by Vauban in the reign of Louis XIV. An attempt by the English, in 1809, to destroy the French fleet here failed. Pop. (1921) 38,200.

Larousse, Pierre, a French lexicographer; born in Toucy, Oct. 23, 1817. In 1864 appeared the first volume of his "Great Universal Dictionary of the Nineteenth Century" (completed 1876, 15 vols. with supplementary volumes 1878 and 1887). He died Jan. 3, 1875.

Larrazabal, Felipe, a Venezuelan biographer and historian; born about 1822. He wrote a valuable "Life of the Liberator Simon Bolivar," collected a large amount of manuscript material on the history of America, and was on his way to Europe to arrange for the publication of his works when he was drowned in the wreck of the steamship "City of Havre," in 1873.

Larrey, Dominique Jean, a French surgeon; born in Baudeau, in the Pyrenees, July 8, 1766. He studied medicine in Toulouse, and after graduating served as surgeon in the navy; in 1793 he transferred to the army, and introduced the "flying

ambulance" service. He died in Lyons, France, July 25, 1842.

Lartius, Titus Flavius, the first appointed dictator at Rome, in 498 B. C.

Larva, the term applied in natural history to indicate the first and earliest stage in the development of those animals which undergo a metamorphosis or series of changes in their progress from the egg to the mature and adult state.

Larvalia, an order in which the animal retains throughout life the tail which in other tunicates is characteristic of the larval stage. All are marine and almost microscopic in size.

Laryngitis, inflammation of the windpipe. When membranous it is called croup, and may also be frequently found associated with diphtheria.

Laryngoscope, an instrument used for examining the larynx. It consists of a little plane mirror attached to a stem about four inches long, at an angle of about 120°, and was invented by the celebrated vocalist Manuel Garcia in 1854. This mirror is introduced into the mouth, and held near the back of the throat, while a strong light is thrown on it from a reflector worn on the forehead or held between the teeth of the examiner. It was not till two German physiologists took up the subject in 1857 that the benefits arising from its use were fully recognized.

Larynx, the vertebrate organ of voice, situated generally at the upper part of the trachea or windpipe, and formed essentially of a dilatation of the windpipe, with modifications of the cartilaginous rings of that organ.

La Salle, Robert Cavalier, Sieur de, a French explorer; born in Rouen, France, Nov. 22, 1643. Settling in Canada at the age of 23, he began his travels with an attempt to reach China by descending the Ohio river, which he supposed to empty into the Pacific. As soon as he found that the great S. streams drained into the Gulf of Mexico he formed the project of descending the Mississippi to the sea. After many and severe hardships this long voyage was concluded, and the arms of France set up at the mouth of the great river on April 9, 1682. Two years later an expedition was fitted out to establish a permanent

French settlement on the Gulf, which should secure France's claims to the Mississippi valley. But La Salle's bad fortune pursued him; he mistook Matagorda Bay for a mouth of the Mississippi, landed there, and then spent two years in unsuccessful journeys to discover the great river, while his colonists and soldiers gradually dwindled away. His harshness of manner, more than his want of success, embittered his followers, and he was assassinated by some of them March 20, 1687.

La Salle College, an educational institution in Philadelphia, Pa., founded in 1867 under the auspices of the Roman Catholic Church.

Lascar, in the East Indies, properly a camp follower, but is generally applied to native sailors on board of British ships.

Lascaris, Constantine, a Greek scholar, who, after the capture of Constantinople by the Turks, fled to Italy, where he was instrumental in reviving the study of Greek. He was a descendant of the royal family of Nicæa. He taught rhetoric and Greek letters at Messina till his death in 1493. His Greek grammar, entitled "Erotemata," and dated 1476, was the earliest Greek book printed in Italy. His library, which is very valuable, is now in the Escorial.

Lascaris, John, or Janus, a relation of the above, surnamed Rhyndacenus; born about 1445; also found an asylum in Italy; was appointed by Leo. X. superintendent of his Greek press; died in Rome in 1535. From Rome he edited several first editions of the Greek classics.

Lascaris, Theodore, Emperor of Nicæa, a young Greek prince who married, in 1200, Anna, daughter of the elder Alexius, Emperor of the East. On the capture of Constantinople by the Crusaders, in 1204, Theodore escaped into Anatolia, and under the title of despot ruled over part of the empire at Nicæa. In 1206 he took the title of emperor and extended his dominion as far as the river Meander. He was the greatest soldier and the best statesman of his time. He died in 1222.

Las Casas, Bartholomew de, a Spanish prelate; born in Seville,

Spain, in 1474. In his 19th year he accompanied his father, who sailed with Columbus, to the West Indies. On his return to Spain he embraced the ecclesiastical profession, in order that he might act as missionary in the Western Hemisphere, "there to spend his days in preaching the Gospel to the Indians, and humanity to their oppressors." Never did man more zealously endeavor to effect a great and good object. Twelve times he crossed the ocean, to plead at the foot of the Spanish throne the cause of the wretched Indians, and passed 50 years of his life in attempting their amelioration. He was made Bishop of Chiapa in 1544; but he resigned his see in 1551, returned to his native country, and died in Madrid, in July, 1566, in the 92d year of his age.

Las Cases, Emmanuel Dieudonne, Comte de, a French historiographer; born near Revel, Languedoc, France, in 1766. He was a lieutenant in the navy before the Revolution. After Napoleon became consul, Las Cases established himself as a bookseller in Paris. A work that he wrote, "Historical Atlas," attracted the attention of the emperor, who made him a baron and employed him in the administration. After Waterloo he obtained leave to share the exile of Napoleon in St. Helena, and there the ex-emperor dictated to him a part of his "Memoirs." After Napoleon's death he published "Memorial of St. Helena," of which O'Meara's "Napoleon in Exile" is a kind of continuation. Las Cases died in Passy, France, May 15, 1842.

Lash, in weaving, a thong formed of the combined ends of the cords by which a certain set of yarns are raised in the process of weaving Brussels carpet.

Lasker, Eduard, a German political leader, born in Jarotschin, Posen, Oct. 14, 1829. He died in New York, Jan. 5, 1884.

Lasker, Emanuel, a German chess player; born in Berlinchen, Prussia, Dec. 24, 1868. In the New York tournament of 1893 he won his games with all the 13 leading players, including Steinitz, the champion of the world. A set match with Steinitz took place at Moscow in Dec., 1896,

and Jan., 1897, and this Lasker won by 10 games to 2, 5 being drawn.

Lassalle, Ferdinand, a German agitator, founder of the German Social Democracy; born of Jewish parents named Lassal, in Breslau, April 11, 1825. His talents won him the admiration even of his enemies. He died in Geneva, Aug. 31, 1864.

Lassell, William, an English astronomer; born in Bolton, Lancashire, England, June 18, 1799. He built a private observatory at Starfield, near Liverpool, about 1820. There he constructed and mounted equatorially reflecting telescopes of nine inches aperture and two feet aperture successively. The speculum of the latter was polished by means of a machine of Lassell's own invention. With this same telescope he discovered the satellite of Neptune (1847); the 8th satellite of Saturn (1848), simultaneously with Professor Bond of Harvard; and two new satellites of Uranus (1851). He died near Maidenhead Oct. 5, 1880.

Lasso, a thin, well-plaited rope of raw hide, used in Spanish America for catching wild cattle.

Last Sigh of the Moor, The, a rocky eminence in the outskirts of the city of Granada, Spain. It is noted as the spot where Boabdil, the last Moorish monarch, took his farewell of the land of his birth.

Lateen Sail, a triangular sail, having its upper edge fastened to a long yard, which is inclined at an angle of about 45°. The yard is slung at a point three-quarters of its length from the peak end. It is used principally in the Mediterranean.

Latent Heat, that portion of heat which exists in any body without producing any effect on another or on the thermometer.

Latent Life, a phrase often used to describe the physiological condition of organisms in which the functions are for a time suspended, without losing the power of future activity.

Lateral Pressure, or Lateral Stress, a pressure at right angles to the length of a beam.

Lateran, Church of St. John, the first in dignity of the Roman churches, and styled in Roman usage "the Mother and Head of all the

churches of the city and the world." As cathedral church of Rome it surpasses St. Peter's in dignity. It is called Lateran from its occupying the site of the splendid palace of Plautius Lateranus, which, having escheated (A. D. 66) in consequence of Lateranus being implicated in the conspiracy of the Pisos, became imperial property, and was given to Sylvester by the Emperor Constantine. It was originally dedicated to the Saviour; but Lucius II., who rebuilt it in the middle of the 12th century, dedicated it to John the Baptist.

Lateran Councils, in Church history, certain councils held in the Church of St. John Lateran in Rome. In all five general councils were held, besides an important council, not oecumenical, against the Monothelites in A. D. 649.

Lath, one of the narrow strips nailed to the studs of partitions to support plastering. Strips of metal are sometimes used for this purpose in fire-proof structures.

Lathe, a machine for turning and polishing flat, round, cylindrical, or other shaped pieces of wood, ivory, metal, etc., in which the object revolves while it is shaped or polished by a tool applied to it.

Lathrop, George Parsons, an American author; born in the Hawaiian Islands, Aug. 23, 1851; was for some years employed editorially on the "Atlantic Monthly" and the Boston "Courier." He died in New York, April 19, 1898.

Lathrop, Rose Hawthorne, an American poet; born in Lenox, Mass., May 20, 1851; daughter of Nathaniel Hawthorne; married George Parsons Lathrop in 1871; became interested in bettering the condition of the destitute and suffering women of New York city. Died in 1926.

Latimer, Hugh, an English reformer; born in Thurcaston, Leicestershire, England, about 1490. He was educated at Cambridge, and received the degree of M. A. in 1514. He was then, as he says himself, "as obstinate a Papist as any in England," but became a Protestant chiefly through the influence of Ridley. He strenuously promulgated the doctrines of the Reformation. When Mary came

to the throne, he was committed to the Tower, whence he was sent, with Ridley and Cranmer, to Oxford, to hold a conference with several doctors from the universities. He pleaded that he was old, sick, and had used the Latin tongue but little for 20 years; he was therefore permitted to give a long profession of faith in writing, for which he was condemned as a heretic, and imprisoned for more than a year in Bocardo, the common jail of Oxford. He was then again summoned before the commissioners, but refusing to recant, he was condemned and burned, near Baliol College, at the same stake with David Ridley, Oct. 10, 1555.

Latin, the language of the ancient Romans.

Latin Church, the Church of the West, as distinguished from the Oriental Church.

Latin Cross, a cross the transverse beam of which is one-third the length of the vertical one.

Latins, the ancient inhabitants of Latium, in Italy. Rome was originally a colony of Alba, in Latium, and thus the language of the Romans is known as the Latin language.

Latin Union, The, a combination formed in 1865 by France, Italy, Belgium, and Switzerland. These countries entered into an agreement by which the amount of silver to be coined yearly was fixed for each member of the union. The coinage of all the countries was of like character, and to be received without discount throughout the union on public and private account. Greece joined the union in 1868, Spain in 1871, and subsequently Servia and Rumania also became members. Some of the South American States also used the Latin Union coinage. Spain alone of the countries of the union coins a gold piece not used by the others. The unit of coinage in the Latin Union is the franc; it has different names elsewhere, as, in Italy the lira; in Servia, the dinar; in Spain, the peseta; but the value is always the same. It is the most widely circulated coinage system in Europe, being used by about 148,000,000 people.

Latitude, the angular distance of a star from the ecliptic, measured on

a great circle drawn through the star and the pole of the ecliptic. This method of measurement is now not much used, that by right of ascension and declination having largely taken its place. Latitude is the most potent, though not the only cause in determining the climate of the several countries. The latitude of a place on the surface of the earth is its angular distance from the equator measured on the meridian of the place. Latitude is N. or S., according as the place is N. or S. of the equator.

Latitudinarians, a party in the Church of England about the middle of the 17th century, who, wearied by the fierce religious disputes of the time, aimed at a broad or comprehensive system which might reconcile the contending parties, or at least diminish the vehemence of their controversies. The term is often used at the present day of persons of broad religious views.

Latour d'Auvergne, Théophile Malo Corret de, dubbed by Napoleon "First Grenadier of the Armies of the Republic"; born in Carhaix Finistère, of an illegitimate branch of the family of the Dukes of Latour d'Auvergne, Nov. 23, 1743. He enlisted as a musketeer in 1767, and distinguished himself at the siege of Port Mahon in 1782. But he steadily refused advancement in military rank, and was killed, a simple captain, June 28, 1800, at Overhausen, near Neuburg in Bavaria. His remains were carried to Paris and interred in the Panthéon on Aug. 4, 1889. French biographies are full of instances of his daring valor, his Spartan simplicity of life, and his chivalrous affection for his friends. When he died the whole French army mourned for him three days; his sabre was placed in the Church of the Invalides at Paris; and every morning, till the close of the empire, at the muster-roll of his regiment his name continued to be called, and the senior sergeant answered to the call: "Mort au champ d'honneur" (Dead on the field of honor). Latour d'Auvergne was also a student of languages, and wrote "Language, Origin and Antiquity of the Bretons."

La Trappe, a Cistercian abbey of Northern France, in a narrow valley

of Normandy, 30 miles N. E. of Alençon. Founded in 1140, it had become in the 16th century a haunt of licentious monks known as the bandits of La Trappe. In the 17th century, however, the Abbot Armand Jean le Bouthelier de Rancé instituted a vigorous reform, and caused the monks to adopt a life of severe asceticism. The Trappists prayed 11 hours daily, and passed the rest of their time in hard labor and silent meditation. Beyond the sacred hymns and prayers, and their usual salutation, *Memento mori*, no word passed their lips—even their wishes and wants were indicated by signs. Their meagre diet consisted solely of fruits and pulse; meat, fish, butter, wine, and eggs being entirely prohibited. They received no information of what was going on in the world, and no news from their relations; all their thoughts were devoted to penance and death, and every evening they dug their own graves. The Trappists were obliged to leave France at the time of the Revolution; but a considerable number of them found a shelter at Valsainte, in Switzerland. Driven from this shelter they found refuge at Constance, at Augsburg, at Munich, and ultimately in Lithuania and White Russia. Small communities established themselves in Italy, Spain, America, England, and even in France, at Mont Genève, despite the prohibitory law. After the restoration their old home at La Trappe was restored to them. La Trappe continues to be the head monastery of the order, and they have also establishments in various parts of Europe, and in America. The professed brothers wear a dark-colored frock, cloak, and hood, which covers the whole face. A female order of Trappists was founded by Louisa, Princess of Condé.

Laube, Heinrich, a German dramatist and novelist; born in Sprottau, Sept. 18, 1896. He died in Vienna, Aug. 1, 1884.

Laud, William, an English prelate; Archbishop of Canterbury in the reign of Charles I.; born in Reading, Berkshire, England, Oct. 7, 1573. He was promoted to the see of Canterbury, and chosen chancellor of the University of Dublin. The zeal which he displayed for conformity to the

Church, and his endeavors to introduce the liturgy into Scotland, created him numerous enemies. At the commencement of the Long Parliament, therefore, he was impeached by the Commons, and sent to the Tower. After lying there three years he was brought to his trial before the Lords, by whom he was acquitted, but the Lower House passed a bill of attainder, declaring him guilty of treason, which they compelled the peers to pass; and the archbishop was accordingly beheaded on Tower Hill, Jan. 10, 1645. He was in the 72d year of his age and met his fate with great fortitude.

Laudanum, or Tincture of Opium, the most generally used of the preparations of opium.

Laughing Gas, nitrous oxide, or nitrogen monoxide, or protoxide of nitrogen; so called because when inhaled it usually produces exhilaration.

Laughing Jackass, or **Great Kingfisher**, a bird in some respects an aberrant form. It has the general build of a kingfisher, but is not a fisher. It feeds upon insects, reptiles, and even small mammals. The peculiar hoot which it utters has, of course, given to it its name. It lays its pearl-white eggs in a hole in a gum tree. There is another closely allied species of identical habits; both birds inhabit Australia.

Laughing Philosopher, a characterization of Democritus (b. c. 470-370) of Abdera. He laughed at the follies of man, whereby they were forever involving themselves in difficulties. He was the originator of the atomic theory, taught the theory of gravitation, and that the milky way is a cluster of stars.

Laughlin, James Laurence, an American educator; born in Deerfield, O., April 2, 1850; was graduated at Harvard College in 1873; was Professor of Political Economy at Cornell University in 1890-1892; head professor of the same branch at the University of Chicago, 1892-16; then professor emeritus. In 1894-95 he drew up a plan of monetary reform for San Domingo, which that government later adopted. He is the author of "Anglo-Saxon Legal Procedure in Anglo-Saxon Laws" (1876); etc.

Laura (Laure de Noves), later **Madame de Sade**, a French lady, famed as the beloved of Petrarch; born in 1308. She was the mother of 11 children. Though she was already married when Petrarch first saw her in a church at Avignon, April 6, 1327, and though she never gave him any encouragement beyond an occasional kindly smile, or word of appreciation of his constant friendship, his attachment for her was most sincere and faithful and 300 of his sonnets are devoted to his remembrances of her. She died in Avignon, France, April 6, 1348.

Laurel, the genus *Laurus*, and especially the bay, the *laurus* of the Romans and the daphne of the Greeks. The berries, the leaves, and the oil have a fragrant smell, an aromatic astringent taste, and narcotic and carminative properties. Water distilled from them contains prussic acid.

Laurens, Henry, an American statesman; born in Charleston, S. C., in 1724. Descended from a French Huguenot family, the early life of Laurens was passed in mercantile pursuits, from which he ultimately realized an ample fortune. On the outbreak of the American Revolution, Laurens, in 1776, was elected a delegate from his native State to the Continental Congress, and became its president, which office he held till the close of 1778. Next year, being appointed minister-plenipotentiary to Holland, he was captured on his way thither by a British frigate, and taken to London, where he was confined as a prisoner in the Tower; and his papers having proved the complicity of Holland in the colonial revolt, a war between Great Britain and Holland followed. On his release, after an imprisonment of 15 months, Laurens was appointed one of the commissioners for negotiating peace, in pursuance of which he proceeded to Paris, where, Nov. 30, 1782, he, conjointly with Franklin and Jay, signed the preliminaries of the treaty. After his return to the United States he passed the remainder of his life in privacy and died in Charleston, Dec. 8, 1792.

Laurens, John, an American military officer; son of the preceding; born in South Carolina in 1756. After

receiving his education in England he joined the American Continental Army in 1777, becoming aid-de-camp and secretary to Washington. Laurens so highly distinguished himself in the battles of Germantown and Monmouth, and in other operations of the War of Independence, as to earn for himself the title of the "Bayard of the Revolution." In 1780 he was sent to France to negotiate a loan, and succeeded in obtaining a grant both of money and supplies. He was killed in action at the Combahee river, S. C., Aug. 27, 1782.

Laurent, François, a French historian and publicist; born in Luxembourg, France, July 8, 1810; died in Ghent, Feb. 11, 1887.

Laurier, Sir Wilfrid, a Canadian statesman; born in St. Lin, Quebec, Nov. 20, 1841. He was educated for the legal profession. He embarked on his political career in 1871, when he was elected as a Liberal to the Quebec Provincial Assembly; and here his eloquence and ability at once brought him to the front. In 1874 he was elected to the Federal Assembly, and his high personal character, his undoubted loyalty and attachment to the connection of the colony with Great Britain, together with his great oratorical powers, which have earned for him the title "Silver-tongued Laurier," soon gave him high rank in the Liberal party. From the first he advocated a policy of free trade so far as the revenue requirements of the country would allow; and, though a Catholic, his spirited resistance to the attempted dictation of the Roman Catholic hierarchy in regard to the Manitoba schools question showed that he was independent of such influence in political affairs. On the retirement of Mr. Blake in 1891 he was chosen as leader of the Liberal party, and at the general election of 1896 he led his followers to a notable victory, becoming Premier of the Dominion. His tariff legislation during 1897, giving Great Britain the benefit of preferential trade with Canada, aroused much enthusiasm both in the colony and in England and he was warmly welcomed when he visited London to attend the Jubilee festivities. He was succeeded as Premier by Robert Laird Borden in 1911. Died, 1919.

Lava, a term used vaguely of all molten matter existing within or flowing in streams from volcanic vents, but more specifically confined to the latter, the former being called trap.

Laval University, a Roman Catholic institution in Quebec, Can., founded in 1852. In 1903 it had a faculty of 52, and about 400 students. Its standards are high, and its extension system carries its influence throughout all French Canada.

Lavater, Johann Kaspar, a Swiss theologian; born Nov. 13, 1741; died Jan. 2, 1801. All his activity was devoted to the service of religion till he undertook his work on physiognomy, in which he contended that there exists a close connection between the internal man and the external expression in the face. He reduced this external expression of disposition and character to a system and considered the lines of the countenance as sure indications of the temper.

Lavender, a menthoid plant with hoary leaves and grayish-blue flowers. It is cultivated for the sake of the fragrant, volatile oil, combined with a bitter principle, contained in the flowers and used in perfumery. Medicinally they are carminatives, stimulants, tonics, and sternutatories.

Lavigerie, Charles Martial Allemand, a French clergyman; born in Bayonne, Oct. 31, 1825. He was made Roman Catholic bishop of Algiers in 1867, and cardinal in 1882. He strove to suppress the slave trade. He died in Algiers, Nov. 26, 1892.

Law, Andrew Bonar, an English statesman; born in the Canadian province of New Brunswick, Sept. 16, 1858; became an iron merchant in Glasgow; represented the Blackfriars Division of Glasgow in Parliament, as a Unionist, in 1900-6; was Parliamentary Secretary to the Board of Trade in the Balfour administration in 1902-6; returned to Parliament from the Bootle Division of Lancashire in 1911; became leader in the House of Commons and Chancellor of the Exchequer in the War Cabinet of 1916. Died, 1923.

Law, George, an American financier; born in Jackson, N. Y., in 1806. Learning the trades of mason and stone cutter he became a contractor

for the construction of railroads and canals; afterward owning a line of steamships to California and Panama, and engaging in other large enterprises, including the Panama railroad. He died in 1881.

Law, John, a Scotch financier; born in Edinburgh, Scotland, April 21, 1671. He settled in Paris, and, in company with his brother William, set up in 1716 a private bank. This was soon so successful and prosperous that the Duke of Orleans, the regent, adopted in 1718 Law's plan of a national bank. In 1719 Law originated his "Mississippi Scheme." When the bubble burst he became an object of popular hatred and found it best to quit France. After wandering here and there he finally settled in Venice, where he died in 1729.

Lawrence, city and capital of Essex county, Mass.; on the Merrimac river and the Boston & Maine and other railroads; 26 miles N. W. of Boston; has an abundant water-power, utilized by great cotton, woolen, and paper mills; chiefly engaged in manufacturing, with annual output exceeding \$50,000,000 in value; assessed property valuation, over \$60,000,000. Pop. (1930) 85,068.

Lawrence, Abbott, American diplomatist; born in Groton, Mass., Dec. 16, 1792; minister to England, 1849-52; founder of Lawrence Scientific School of Harvard to which he gave \$100,000. Died Aug. 18, 1855.

Lawrence, David Herbert, English author, born Sept. 11, 1885, at Eastwood, Nottingham, England. Best known works: "Sons and Lovers," "Women in Love," "Lady Chatterley's Lover." Total publications number twenty-one volumes of novels, short stories, essays, travel books and plays. Died March 3, 1930, at Nice, France.

Lawrence, James, an American naval officer; born in Burlington, N. J., Oct. 1, 1781; entered the American navy as a midshipman, 1797; was with Decatur as his 1st lieutenant in the engagement against Tripoli. While in the Mediterranean he was promoted, and rose to the command successively of the "Vixen," "Wasp," "Argus," and "Hornet." While cruising with the latter off Delaware, Feb. 24, 1813, he met the British vessel "Peacock," which he captured after a brilliant en-

agement of only 15 minutes. On his arrival in the United States he was received with acclamation in consequence of this dashing success, and was made post captain and given command of the frigate "Chesapeake." He was preparing for sea, with his vessel in the roads of Boston, when the British frigate, the "Shannon," Captain Broke, appeared off the harbor and challenged the "Chesapeake," which Lawrence, though his ship was in an incomplete condition as to crew, armament and stores, resolved to accept. He accordingly put to sea as morning broke, June 1, 1813. The "Shannon" bore away at his approach, but the "Chesapeake" hauling to and firing a gun, the enemy followed suit and the action began. At almost the first fire Lawrence was severely wounded in the leg. Nothing daunted the brave commander continued the engagement, which was soon brought to close quarters. Lawrence now received a mortal wound in the abdomen, and as he was carried below, in the hottest of the struggle, he cried out these immortal words, "Don't give up the ship." The battle, however, did not last long. Captain Broke grappled with the "Chesapeake," and boarding, overpowered her. The struggle lasted 11 minutes. Captain Lawrence lingered four days in extreme suffering, and died on the "Chesapeake," at Halifax, June 5, 1813, and was buried with military honors in Halifax by the British. His uniform coat, chapeau, and sword are now in possession of the New Jersey Historical Society.

Lawrence, Sir Thomas, an English portrait painter; born in Bristol, England, May 4, 1769. He died in London, Jan. 7, 1830.

Lawrence, William Beach, an American jurist; born in New York city, Oct. 23, 1800; was graduated at Columbia College in 1818; admitted to the bar in 1823 and practised in New York, where he attained eminence; settled in Newport, R. I., in 1850; elected lieutenant-governor of Rhode Island in 1851, and soon after became acting governor. He wrote "Belligerent and Sovereign Rights as regards Neutrals During the War of Secession" (1873); etc. He died in New York city, March 26, 1881.

Lawsonia, the monotypic oriental henna plant. See HENNA.

Lawson's Cypress, a species of cypress found in the valley of Northern California, where it grows to the height of 100 feet. The branches are numerous and are drooping, slender, and regularly disposed, forming a symmetrical columnar mass of rich green spray.

Lawson, Thomas William, financier and publicist; b. Feb. 26, 1857, at Charlestown, Mass. He received a public school education, became a banker and broker, a member of the Boston and New York Stock Exchanges, a copious contributor to periodical literature, in 1906 his attacks on "frenzied finance" giving him world-wide notoriety. Died, 1925.

Lawton, Henry Ware, an American military officer; born in Manhattan, O., March 17, 1843; entered the military service as a private, April 16, 1861; became a sergeant of Company E, 9th Indiana Infantry, April 18, 1861; 1st lieutenant of the 30th Indiana Infantry, Aug. 20, 1861; captain, May 17, 1862; lieutenant-colonel, Feb. 15, 1865; mustered out Nov. 25, 1865; entered the regular army as 2d lieutenant in 41st Indiana Infantry, July 28, 1866; transferred to the 4th U. S. Cavalry in January, 1871; promoted to captain, March 20, 1879. In 1876 he was conspicuous in the expedition against the hostile Sioux, sharing every privation and going into dangers into which he would not send one of his soldiers. He took part against the Ute Indians in Colorado, in October, 1879, relinquishing his command to join the expedition. In the spring of 1886 he was selected by General Miles to lead a picked body of troops into Mexico in pursuit of the murderous Geronimo. For three months, with saltless mule meat and sometimes little of that for rations, he marched his command 1,396 miles through parched and barren deserts, until Geronimo and his band were captured. At the beginning of the American-Spanish War Lawton was a lieutenant-colonel and was made Major-General of volunteers, July 8, 1898. He was in command of the 2d Division of the 5th Army Corps before Santiago, and was in the thick of the fighting preceding the capture

of San Juan Hill and will go down in history as the "hero of El Caney." At the close of the war with Spain General Lawton was transferred to the Philippines, where he began active operations against the insurgents; captured Santa Cruz, a Filipino stronghold, April 10, 1899, and San Isidro, May 15; was placed in command of Manila, June 1, and early in the fall began an offensive campaign looking toward the capture of Aguinaldo; arrived at Arayat Oct. 19, and made Cabanatuan his headquarters. On Dec. 19, he was on the firing lines at San Mateo, where owing to his tall figure and brilliant uniform he was easily picked out by insurgent sharpshooters. He had scarcely been warned of his danger when he cried, "I am shot," and fell dead.

Lawton, William Cranston, an American educator; born in New Bedford, Mass., May 22, 1853; was graduated at Harvard in 1873; studied in Europe from 1880 to 1883; was a classical teacher in New Bedford and Boston for several years; and subsequently a professor at Bryn Mawr college and Adelphi College.

Lay, John Louis, an American inventor; born in Buffalo, N. Y., Jan. 14, 1832; served in the Civil War; distinguished himself in July, 1862, by going with the expedition against the Confederate ram "Albatross," which was destroyed by a torpedo of his invention; promoted first assistant engineer in October, 1863. Later he conceived the idea of a moving submarine torpedo. In 1867 he designed the weapon named after him and subsequently sold it to the government. He died in New York city, April 17, 1899.

Layard, Sir Austen Henry, an English archaeologist; born in Paris, France, March 5, 1817. He is best known by his books: "Nineveh and its Remains," and "Discoveries in the Ruins of Nineveh and Babylon." He died in London, England, July 5, 1894.

Lay Brother, or **Lay Sister**, a person who takes the habits and vows of religion, but is employed mostly in manual labor, and is therefore exempt from the duties of the choir, where such exist, or from the studies, etc., incumbent on the other members of

religious orders where there is no choir.

Laynez, Diego, second general of the Jesuits; born in Castile 1512; died 1565. He was educated at the University of Alcalá, and from that he went to Paris, where he made the acquaintance of Ignatius Loyola. Laynez was ordained priest in Venice, 1537, and while there he and Loyola formed the project of establishing the Society of Jesus. After the order had been confirmed by Paul III. (1540), and Loyola, at the request of Laynez, had been appointed the first general, he made many journeys for the purpose of extending the society of the Jesuits, and in 1558 he succeeded Loyola as general of the order.

Lazaretto, a public building, hospital, or pest-house, for reception of those afflicted with contagious distempers. Applied to buildings in which quarantine is performed. See QUARANTINE.

Lazarists, an order of missionary priests, founded at Paris by St. Vincent de Paul in 1625 for the purpose of supporting missions and of ministering to the spiritual wants of the poor. The foundation was confirmed by letters-patent of Louis XIII., May 1627, and the missionaries were erected into a congregation by Pope Urban VIII. in 1631.

Lazarus, Emma, a Hebrew-American poet; born in New York city, July 22, 1849. She died in New York city, Nov. 19, 1887.

Lazzaroni, till lately a special class of the inhabitants of Naples. They had no fixed habitations, regular occupation, or secure means of subsistence, but occasionally obtained employment as messengers, porters, boatmen, itinerant vendors of food, etc. They performed an important part in all the revolutions and movements in Naples, and were wont annually to elect a chief (Capo Lazzaro), who was formally recognized by the government.

Lea, Henry Charles, an American publisher and historian; born in Philadelphia, Pa., Sept. 19, 1825; entered his father's publishing house in 1843; became the principal in 1865; and retired from business in 1880. Between 1840 and 1860 he wrote many papers on chemistry and con-

chology. After 1857 he devoted his attention to European mediæval history, his chief works being: "Superstition and Force"; "An Historical Sketch of Sacerdotal Celibacy"; "History of the Inquisition of the Middle Ages," etc. He died in 1900.

Lead. This metal was well known to the ancients. Several lead mines were worked by the Romans, with whom the leaden waterpipes were common. Lead is an abundant and widely distributed metal. It is a constituent of a very large number of minerals. The production of refined lead from domestic ores in 1923 was 543,841 short tons, valued at New York City at about \$50,000,000.

League, a combination or union between two or more persons for the promotion of mutual or common interests, or for the execution of any design in common. Also a treaty, alliance, or confederation between two or more sovereigns or governments for mutual aid and defense. An offensive league or alliance is when two or more States agree to unite in attacking a common enemy; a defensive league is when the contracting parties agree to assist each other in their defense against a common enemy.

League of Nations, an association of nations formed by the Peace Treaty of Paris, signed on June 28, 1919. See APPENDIX.

Leah, the elder daughter of Laban, and the first wife of Jacob, though less beloved than her sister Rachel. She had through life the remembrance of the deceit by which her father had imposed her upon Jacob. She was the mother of seven children, among whom were Reuben—Jacob's first born—and Judah, the ancestor of the leading tribe among the Jews, of the royal line, and of our Lord (Gen. xxix: 16-35; xxx: 1-21). She is supposed to have died before the removal of the family into Egypt (Gen. xxxix: 81).

Leake, William Martin, an English antiquarian; born in London, England, Jan. 14, 1777. He died in Brighton, Jan. 6, 1860.

Leander, the adventurous lover of Hero, who swam nightly across the Hellespont to visit her, but eventually was drowned.

B.-46.

Leaning Tower. See PISA.

Leap Year, a year which leaps over, as it were, one day more than an ordinary year; a year which contains 366 days, as distinguished from an ordinary year, which includes only 365 days. Every year the number of which is divisible by four is a leap year, except when it happens to be any number of hundreds not divisible by four. Thus, 1884 is a leap year, but not 1900, this omission of leap year in such centuries being necessary to correct the error which arises from the excess of the addition of one day in four years (i. e., six hours) to the year over the true length of the year, i. e., 365 days, 5 hours, 49 minutes.

Lear, Edward, an English author; born in London, England, May 12, 1812. He died in San Remo, Italy, Jan. 30, 1888.

Lear, King, a legendary king of Britain, who in his old age divided his kingdom between Goneril and Regan, two of his daughters, who professed great love for him. These two daughters drove the old man mad by their unnatural conduct. Shakespeare made this story the subject of one of his plays.

Leary, Richard Phillips, an American naval officer; born in Baltimore, Md.; was graduated at the United States Naval Academy in 1860; served with the blockading squadron off Charleston, S. C., in 1863-1865; promoted commander in 1882. During the revolution at Samoa in 1888, when the Tamasese government was overthrown, he was the senior naval officer present; promoted captain in April, 1897; commanded the cruiser "San Francisco" in 1897-1898; and when the "New Orleans" was purchased from Brazil conveyed that vessel to the United States. At the close of the Spanish-American War he was appointed the first American governor of Guam; and served there till relieved on his own request, in April, 1900. He died in Boston, Mass., Dec. 27, 1901.

Lease, the contract establishing the relation between landlord and tenant. Every lease has its own peculiar clauses, as to drainage, houses, cropping, etc.

Leather, the skins of animals chemically modified by tanning and otherwise, so as to arrest that proneness to decomposition which characterizes unprepared skins, and to give to the substance greatly increased strength, toughness, and pliancy, with insolubility in water.

In 1914 there were 741 plants engaged in tanning, carrying, and finishing leather, having an aggregate capital of \$332,180,000, and products valued at \$367,202,000, and 378 plants making other leather goods, having capital of \$10,951,000 and products valued at \$19,354,000.

Leavenworth, city and capital of Leavenworth county, Kan.; on the Missouri river and several railroads; 25 miles N. of Kansas City; is one of the most important commercial and manufacturing cities in the State; contains a Federal building, Cathedral of the Immaculate Conception, colossal bronze statue of Gen. Grant, and, in the vicinity, Ft. Leavenworth, U. S. Infantry and Cavalry School, U. S. Military Prison, and State Penitentiary. Pop. (1930) 17,466.

Lebanon, a mountain range in Syria. The word Lebanon is derived from a Semitic root meaning "white"; and this name is given to the mountains, not because their peaks are covered with snow (as they are even in summer), but because of the whitish color of their rocks. Streams of clear water are numerous. The inhabitants (estimated at over 221,000 in all) are a hardy, ruddy race of people, of Syrian (Aramaean) descent, who keep large herds of sheep and goats. The predominating element is the Maronites, more than two-thirds of the total; next come the Druses. Besides these there are Mohammedans, members of the Greek Church, Metawile (a sect of Shiite Moslems), and a few converts of the American Protestant and the Roman Catholic missionaries of Beyrout. After the bloody quarrels of the Druses and Maronites in 1860, the district of Lebanon was separated (1861) from the Turkish pashalik of Syria, and put under a Christian governor, the European powers constituting themselves the "guardians" of the new province.

Le Gateau, a town midway between Paris and Liege, about 100 miles from each city, 18 miles S. of Valenciennes, 26 miles S. of the French frontier. It figured largely in the wars of the 15th and 16th centuries; was ceded to France in 1678; and was in the battle zone of the World War. Pop. about 11,000.

Lecky, William Edward Hartpole, historian; born near Dublin, Ireland, March 26, 1838. He was educated at Trinity College, where he graduated B. A. in 1859 and M. A. in 1863. Already in 1861 he had published anonymously "The Leaders of Public Opinion in Ireland," four brilliant essays on Swift, Flood, Grattan, and O'Connell. Later works were his "History of the Rise and Influence of the Spirit of Rationalism in Europe"; and "History of England in the Eighteenth Century." Died 1903.

Leclaire, Edme-Jean, a French social scientist; born in Aisy-sur-Ormancon, France, May 14, 1801. He died July 13, 1872.

Le Clerc, John, better known as Johannes Clericus, a Genevan Reformed Theologian; born in Geneva, Switzerland, Mar. 19, 1657; died in 1736.

Lecocq, Alexandre Charles, a French composer of comic operas; born in Paris in 1832; died in 1911.

Lecompton Constitution, a pro-slavery constitution adopted by the Legislature of Kansas in 1857, but rejected by the people of the Territory, Jan. 4, 1858.

Leconte de Lisle, Charles Marie Renè, a French poet; born in the Isle of Bourbon (Reunion), Oct. 23, 1818. Settling in Paris (1846), he was at first an enthusiastic socialist and disciple of Fourier; afterward he became an impassioned admirer of the ancient religions of Greece and India, and a pantheistic conception of the universe dominated all his thoughts. He made admirable translations of ancient Grecian poets—Homer, Hesiod, Theocritus, Anacreon, and the dramatists. He died in Louveciennes, near Paris, July 17, 1894.

Le Conte, John, an American physicist; born in Liberty co., Ga.,

Dec. 4, 1818. He was Professor of Physics, Industrial Mechanics and Physiology in the University of California from 1869 till his death, and was president of that institution from 1876 to 1881. He wrote a large number of papers on scientific subjects, which were printed in scientific journals on both sides of the Atlantic. He died in Berkeley, Cal., April 29, 1891.

Leconte, John Lawrence, an American naturalist; born in New York city, May 13, 1825. He was surgeon of volunteers during the Civil War and chief clerk of the United States mint in Philadelphia from 1878 till his death. He traveled all over the United States making scientific researches, and secured large collections of botanical, zoölogical, and other specimens, which at his death were given to the Museum of Comparative Zoölogy, Cambridge, Mass. He wrote many entomological papers. He died in Philadelphia, Pa., Nov. 15, 1883.

Le Conte, Joseph, an American scientist; born in Liberty co., Ga., Feb. 26, 1823. He practised medicine for several years at Macon, Ga., but in 1850 went to Cambridge, Mass., where he studied natural history under Agassiz. He subsequently held several professorships, and after 1869 occupied the chair of geology and natural history in the University of California. He died in the Yosemite Valley, California, July 6, 1901.

Ledochowski, Miecislav Halka, a Polish Roman Catholic ecclesiastic; born in Galicia, Oct. 29, 1822. He studied theology at Warsaw, Vienna, and Rome; became domestic prelate and prothonotary apostolic to Pius IX.; entered the papal diplomatic service and became papal auditor successively at Madrid, Lisbon, Rio de Janeiro, and Santiago de Chile. In 1861 he was made Archbishop of Thebes. By his appointment to the archbishopric of Guesen and Posen in 1866 he became primate ex officio of Poland. He was an active opponent of the Prussian ecclesiastical laws which gave the people of dioceses and parishes the privilege of choosing their own bishops and priests. In 1873 he headed this movement of opposition, and being called to appear

before the courts to justify his action, he refused to obey the decree of the court, in consequence of which and his opposition to the ecclesiastical laws his property was confiscated, and he was made a prisoner at Ostrowa. He was made cardinal March 15, 1875, and in 1892 prefect of the propaganda. He died at Rome, Italy, July 22, 1902.

Ledru-Rollin, Alexandre Auguste, a French agitator; born near Paris, France, Feb. 2, 1807. He died in Fontenay, France, Dec. 31, 1874.

Ledyard, John, an American traveler; born in Groton, Conn., in 1751. He was a companion of Captain Cook in his third voyage round the world (1776-1780). He planned a journey through Northern Europe and Asia in the early part of 1788, but reached no farther than Irkutsk, Russia, where he was arrested on suspicion of being a spy, and was compelled to abandon his enterprise. In June of the same year he started on a voyage of exploration to Central Africa, under direction of the African Association, which was cut short by his death, in Cairo, Egypt, Nov. 17, 1789.

Ledyard, William, an American military officer; born in Groton, Conn., about 1750. He was in command of Fort Griswold, near New London, Conn., when it was attacked, Sept. 6, 1781, by an overpowering force of British under Lieutenant-Colonel Eyre. The fort was compelled to surrender and after this was done it is said that Ledyard was run through with his own sword (Sept. 7, 1781), by the English officer, Major Bromfield, who had assumed command on the death of his superior in command.

Lee, the side or quarter of a ship opposite to that from which the wind blows; the sheltered side; the shelter afforded by an object interposed and keeping off the wind.

Lee, Ann, founder of the Society of Shakers in America; born in Manchester, England, Feb. 29, 1736. She was poor and uneducated, and in 1753 joined the Shakers, a sect allied in their belief to the Friends, but who were peculiar in their form of worship. They practised curious dances

in which the whole body was shaken and thrown into strange postures. Ann Lee was married in 1762 to a blacksmith named Standerin, or Stanley. She believed herself inspired, and was imprisoned in 1770 for preaching the new doctrine of celibacy. In 1774 she emigrated to America and founded the Society of Shakers. She was greatly revered by her followers, and by them was called "Mother Ann." She died in Watervliet, N. Y., Sept. 8, 1784.

Lee, Arthur, an American diplomat and statesman; born in Westmoreland co., Va., Dec. 20, 1740. He was intrusted with missions to England and France, and conducted negotiations with France, Spain, Prussia and Holland, spending the years 1770-1780 in these duties. In the latter year he returned to America and was a member of Congress in 1782-1785. He died in Middlesex co., Va., Dec. 12, 1792.

Lee, Charles, an American military officer; born in Dernhall, Cheshire, England, in 1731. In 1775 he was made Major-General. He was captured by the British in 1776, and was exchanged in 1778. For disobedience of the orders of Washington at the battle of Monmouth in 1778, he was tried by court-martial and sentenced to one year's suspension from the army, and afterward was altogether dismissed by Congress. He died at Philadelphia, Pa., Oct. 2, 1782. Papers have been discovered showing that a "Mr. Lee," supposed to be General Lee, submitted to the British a plan for crushing the American cause, and indicating, therefore, that Lee's conduct at Monmouth may have been treasonable.

Lee, Eliza Buckminster, an American prose writer; born in Portsmouth, N. H., in 1794. She died in Brookline, Mass., June 22, 1864.

Lee, Fitzhugh, an American military officer; born in Clermont, Fairfax co., Va., Nov. 19, 1835. He was graduated at the United States Military Academy in 1856. At the outbreak of the Civil War he resigned his commission and entered the Confederate Army, rising through its grades to that of Major-General. He participated in all the battles of the

Army of Northern Virginia, and was severely wounded at Winchester in 1864. He commanded a cavalry corps of the Army of Northern Virginia in 1865, surrendering to General Meade in March. He was governor of Virginia from 1886 to 1890. Appointed consul-general at Havana in 1893, he served there till 1898, and was at the head of affairs in Cuba during the period immediately preceding the outbreak of the war with Spain. The Spanish government endeavored, without success, to effect his recall. President McKinley having intended to send an additional message to Congress on April 6, 1898, the effect of which would have been an immediate outbreak of hostilities, Consul-General Lee forwarded him a dispatch, stating that he would not be able to remove American citizens from Cuba before the night of the 9th. The President withheld his message, and on the appointed evening the Americans in Cuba who wished to leave were conveyed from the island. During the ensuing war with Spain Lee was a Major-General of volunteers, serving in Cuba, and becoming at the close of hostilities military governor of Havana and a Brigadier-General, U. S. A. He was Director-General of the Jamestown Exposition at the time of his death, April 28, 1905.

Lee, Francis Lightfoot, a signer of the Declaration of Independence and a brother of Richard Henry Lee; born in Stratford, Va., Oct. 14, 1734. He died in Richmond, Va., April 3, 1797.

Lee, Mrs. Hannah Farnham Sawyer, an American author, wife of George Gardiner Lee; born in Newburyport, Mass., 1780. Her works exerted considerable influence during the first quarter of the 19th century. She died in Boston, Dec. 27, 1865.

Lee, Henry, an American soldier; born in Leesylvania, Va., Jan. 29, 1756. He was graduated at Princeton College in 1774, and on the outbreak of the Revolutionary War joined Washington's army. He speedily won distinction for his dash and daring, being styled "Lighthorse Harry Lee." He led the army of 15,000 men that put down the "whiskey insurrection" in Pennsylvania in 1794. He first uttered the words, "First in war, first

in peace, first in the hearts of his countrymen," applying them to Washington, in delivering a commemorative oration. He died on Cumberland Island, Ga., Mar. 25, 1818.

Lee, Richard Henry, an American statesman; born in Stratford, Westmoreland co., Va., Jan. 20, 1732. He received part of his education in England, and after his return to his native country was chosen a delegate to the House of Burgesses from Westmoreland county. In the opposition to unjust British claims he played throughout a most important part, and on being sent as delegate from Virginia to the first American Congress at Philadelphia (1774) was at once recognized as a leader in that assembly. He drew up most of those addresses to the king and the English people which were admitted by his political opponents to be unsurpassed by any of the state papers of the time. When war became inevitable Lee was placed on the various committees appointed to organize resistance. On June 7, 1776, he introduced the motion finally breaking political connection with Great Britain. In consequence of weak health he was unable to serve in the field, but his activity as a politician was as unceasing as valuable. In 1784 he was unanimously elected president of the Congress, and when the federal Constitution was established he entered the Senate for his native State. In 1792 he retired into private life. He died in Chantilly, Va., June 19, 1794.

Lee, Robert Edward, an American military officer; born in Stratford House, Westmoreland co., Va., Jan. 19, 1807. He was graduated at United States Military Academy in 1829, and entered the United States army as 2d lieutenant, becoming 1st lieutenant in 1836, and captain two years later. In 1846 Lee was appointed engineer-in-chief to the United States army in Mexico; was brevetted major in April of that year for "gallant conduct at the battle of Cerro Gordo"; lieutenant-colonel in August, 1847, for distinguished bravery in the actions of Contreras and Churubusco; and colonel (Sept. 13, 1847), for eminent services at Chapultepec. After the close of the war Colonel Lee was reappointed a mem-

ber of the United States Board of Engineers, and in 1852 was made superintendent of West Point Military Academy, which he held till March, 1855, when he was appointed lieutenant-colonel of cavalry. In 1861 he received his colonelcy, but resigned his commission within a month afterward, and offered his sword to his native State, Virginia, which had just seceded from the Union, and was then threatened by the National forces. His offer being promptly accepted, Colonel Lee was appointed commander-in-chief of the Virginia troops, with the rank of general in the Confederate army. He occupied himself with the placing of his troops in a state of perfect organization and equipment, till May, 1862, when he superseded Gen. J. E. Johnston in the command of the army intrusted with the defense of Richmond, at that time threatened by a formidable Union army under the command of General McClellan, his old companion-in-arms, and coassociate in the commission sent by the United States government, in 1854, to the Crimea, to report on the Allies' operations there. In the sanguinary campaign that ensued, the object of which was on one side the capture and on the other the defense of the Confederate capital, General Lee, aided by "Stonewall" Jackson, made a vigorous assault on McClellan's army, and succeeded, in a series of severe battles, known as the "Seven Days' Battles," in forcing it back from its position in front of Richmond. In August of the same year, General Lee forced the Union army under General Pope to fall back upon Washington. The campaigns he conducted in Maryland and Pennsylvania in 1862-1863, were, however, not so fortunate. After fighting a hotly-contested battle at Antietam, which was in effect a Union victory, Sept. 17, 1862, Lee was obliged to retreat across the Potomac; and though he held his own in the first day's battle at Gettysburg (July 1, 1863), he met with a disastrous repulse two days afterward, and was again compelled to retire across the Potomac. Previous to this, however, General Lee had defeated General Burnside's army at Fredericksburg, Dec. 12-16, 1862, and also defeated General Hooker at

Chancellorsville, May 1-4, 1863. From August, 1863, till May, 1864, General Lee was engaged in operations along the line of the Rappahannock, and fought a succession of desperate battles in the Wilderness, and from there S. to his old position before Richmond, during May, 1864. On Feb. 5, 1865, General Lee was appointed commander-in-chief of all the Confederate armies in the field, and till April in that year held the defenses of Petersburg and Richmond, fighting several battles to retain them. On April 2 he was at last dislodged from his intrenchments by superior forces, compelled to retreat from Petersburg, and eventually to surrender himself and army to General Grant, April 9, after a long and gallant contest with that great and successful Union commander, who treated the beaten Confederates with memorable generosity. General Lee was installed president of Washington College, Va., Oct. 2, 1865. He died in Lexington, Va., Oct. 12, 1870.

Lee, Stephen Dill, an American military officer; born in Charleston, S. C., Sept. 22, 1833. He was graduated at United States Military Academy in 1854. He served in the army till 1861, when he resigned to enter the Confederate service, rising through its military grades to that of Lieutenant-General. He fought gallantly in the battles around Richmond, at the second Bull Run and other engagements. After the Civil War he was prominent in organizations of Confederate veterans. In 1899 he became commander of the Vicksburg National Park. He died in 1908.

Lee, William, an English inventor; born in Nottinghamshire, England, about 1560. He was a graduate of Cambridge University and best known as the inventor of the stocking frame. He presented a pair of silk stockings, knit by his machine, to the queen in 1598, but the hand-knitters violently opposing the introduction of machinery to do their work, he went to France. Meeting with no better success there he became greatly discouraged, and his death is said to have been the result of his disappointment. He died in Paris, France, about 1610.

Leech, any individual of the suctorial order Hirudinea, of which the best known examples are the horse-leech, and the medicinal leech. Leeches are employed for the local extraction of blood when cupping is not advisable. Care should be taken that they do not enter the mouth or any other cavity of the body. To destroy a leech in the stomach, injections of salt and water are used.

Leech, John, an English artist and humorist; born in London, England, Aug. 29, 1817. He died suddenly in London, Oct. 29, 1864.

Leeds, a manufacturing town of England, in Yorkshire. It is the great center of the British woolen industry, and has also extensive iron and machine works. Its pop. in 1921 was 458,320.

Leeward Islands, the W. section of the Lesser Antilles (so called in distinction from the Windward Islands with reference to the trade winds). The chief products are sugar and molasses. Pop. (Est.) 130,000.

Le Fann, Joseph Sheridan, an Irish journalist and novelist; born in Dublin, Ireland, Aug. 28, 1814. He died in Dublin, Feb. 7, 1873.

Legacy, anything which is handed or passed down from an ancestor or predecessor.

Le Gallienne, Richard, an English author; born in Liverpool, England, Jan. 20, 1866. He was educated at Liverpool College. He served articles to a firm of chartered accountants for seven years; abandoned business for literature; for a few months was private secretary to Wilson Barrett, and later literary critic for the "Star." He finally settled in London. He has written and edited many books, and is a frequent contributor to American periodicals.

Legare, Hugh Swinton, an American statesman; born in Charleston, S. C., Jan. 2, 1789. He died in Boston, Mass., June 20, 1843.

Legate, an ambassador (a cardinal or bishop) sent by the Pope to a foreign prince or state.

Legation, the ambassador or envoy sent to any foreign court on a mission, together with his assistants; as, the legation of the United States.

Legazpe, Miguel Lopez de, a Spanish military officer; born in Zumarraga, Guipuzcoa, about 1510. In 1571 he conquered the island of Luzon and established the city of Manila in May of that year. He died in Manila, Aug. 20, 1572.

Legendre, Adrien Marie, a French mathematician; born in Paris, France, Sept. 18, 1752. He died near Paris in great poverty, Jan. 10, 1833.

Leger, Paul Louis, a French scholar and author; born in Toulouse, France, Jan. 13, 1843. He was Professor of the Slav Languages at the College of France, and did much to awaken an interest in the history and philology of the Slav peoples.

Legerdemain, sleight of hand; dexterity in deceiving the eye by the quickness or nimbleness of the hand; a trick performed so dexterously and adroitly as to elude discovery by the spectators; trickery, juggling; a juggle.

Legge, Alexander, American business man; self-educated, worked from collector to presidency of International Harvester Co. On War Industries Board during World War. In 1929 made first chairman of the new Farm Board.

Leghorn, a seaport of Italy on the Mediterranean Pop. (1926) 118,902.

Legion, a division of the ancient Roman army, varying at different periods from 2,000 to 6,000 men.

Legion of Honor, a French order of merit founded by Napoleon I., when first consul, as a reward for services of merit, civil or military.

Legitime, François Denys, a Haitian soldier; born in 1842. Becoming minister under President Salomon, he resigned that post because he was accused of aspiring to the presidency, and retired to Kingston, Jamaica, where he remained three years. At the end of that period he returned to Haiti at the invitation of his followers, and on Oct. 7, 1888, was elected president of the provisional government of Haiti. Thelemaque denounced the election as a job, and raised an army to make himself president, but he was killed in the battle which ensued. Legitime was elected president of Haiti, Dec. 17, 1888, but resigned in 1889, owing to the oppo-

sition of General Hippolyte. He lived in retirement in Jamaica till 1896, when President Sam granted a general amnesty, and he returned to Haiti.

Legros, Alphonse, a French painter and etcher; born in Dijon, France, May 8, 1837.

Leibnitz, or more correctly **Leibniz, Gottfried Wilhelm, Freiherr von**, one of the most celebrated scholars and philosophers that Germany has ever produced; born in Leipsic July 6, 1646. He died Nov. 14, 1716.

Leibnitz early directed his attention to mathematics, and attained great eminence in this science. Authorities seem generally agreed that he discovered the differential calculus independent of any knowledge of Newton's method of fluxions, so that each of these great men in reality attained the same result for himself.

Leicester, Robert Dudley, Earl of, an English noble and favorite of Queen Elizabeth; born June 24, 1532 or 1533. In 1588, on the threatened invasion of the Spanish Armada, Leicester was appointed Lieutenant-General of the kingdom, and died Sept. 4 in the same year.

Leichhardt, Friedrich Wilhelm Ludwig, a German explorer; born in Trebatsch, near Berlin, Prussia, Oct. 23, 1813. In 1841 he proceeded to Australia. There he conducted an expedition (1843-1848) from Moreton Bay, in Queensland, N. W. to the Gulf of Carpentaria, and then, skirting its S. and W. shores, finally reached Port Essington. In the end of 1846 he made an unsuccessful attempt to cross the base of Cape York Peninsula. In November, 1847, he again started from Moreton Bay with the intention of crossing the entire continent from E. to W., but he was lost in the interior. Nothing authentic was heard of him after April 3, 1848. The "Journal" of his first journey was published in London in 1847, and his "Letters" in German in 1881.

Leif Ericsson, a Scandinavian voyager who flourished about the year 1000 A. D. He is reported to have sailed from Iceland and to have discovered the American continent, and

Leighton

in 1887 there was erected in Boston, Mass., a statue to "Leif the Discoverer." The discovery of America by the Northmen and their temporary settlement here is generally credited by Americans who have studied the evidence.

Leighton, Sir Frederick, an English artist; born in Scarborough, England, Dec. 3, 1830. He died in London, Jan. 25, 1896.

Leighton, William, an American poet; born in Cambridge, Mass., in 1833. He was educated at Harvard. He wrote: "The Sons of Godwin."

Leiningen, a princely house of Germany, dating back to 1096. The mother of Queen Victoria had for her first husband the Prince of Leiningen.

Leipoa, the "native pheasant" of the colonists of Western Australia; which in its habits is very like the domestic fowl.

Leipzig, a commercial city of Germany, Free State of Saxony, on the White Elster (a tributary of the Saale). On Oct. 16-19, 1813, the great "battle of the nations" was fought around and in Leipzig, in which Napoleon received his first defeat. Pop. (1925) 679,159.

Leizner, Otto von, a German author; born in Saar, Moravia, April 24, 1847. Besides his poetical works he has also written short stories. His "History of German Literature" is a notable work. He died in 1907.

Leland, Charles Godfrey, an American author; born in Philadelphia, Pa., Aug. 15, 1824. He was graduated at Princeton College in 1846, and afterward studied at Heidelberg, Munich, and Paris. He was admitted to the Philadelphia bar in 1851, but turned from law to journalism. From 1869 he resided chiefly in England. Leland is most widely known for his dialect poems in "Pennsylvania Dutch." He died in 1903.

Leland Stanford, Junior, University, a coeducational, nonsectarian institution in Palo Alto, Cal.; founded in 1891, by Leland Stanford and his wife, Jane Lathrop Stanford, in memory of their only child, Leland Stanford, Jr., who died in 1884. The productive funds are about \$24,000,000. No honorary degrees are given.

Le Moine

Lemay, Leon Pamphile, a Canadian author; born in Lotbiniere, Quebec, Jan. 5, 1837. "The Discovery of Canada," written by him, won him the gold medal awarded by Laval University.

Lemberg (formerly Lowenburg; Polish name "Lwow"), the capital of the Polish republic of Galicia and Lodomeria. The city suffered severely in the World War; was occupied by the Russians, Sept. 3, 1914; and recaptured by the Austrians, June 22, 1915. It was assigned to Austria in the partition of Poland in 1772. Pop. (1923) 219,193. See APPENDIX, *World War*.

Lemieux, Rodolphe, a Canadian official; born in Montreal, Nov. 1, 1866; called to the bar in 1891; became Professor of Law at Laval University in 1897; member of Parliament in 1896, 1900 and 1904; Solicitor-General of Canada in 1904; Postmaster-General and Minister of Labor in 1906; and special envoy to Japan to settle immigration question in 1907.

Lemming or Leming, a rodent, inhabiting the mountainous regions of Sweden and Norway. Length about six inches, the tail being only half an inch. The lemming is remarkable for migrating at certain periods in immense multitudes, in a straight line. They move in parallel columns, and nothing will induce them to deviate from the straight line, the migration always terminating in the sea, and ending in the drowning of all that have survived the journey.

Lemnos, a Turkish island in the N. part of the Aegean Sea; 40 miles S. E. of Mount Athos and about the same distance S. W. of the Dardanelles. Area, 180 square miles; pop. about 30,000, all Greeks, except 5,000 Turks. It was conquered by the Persians in the reign of Darius Hystaspes; but Miltiades wrested it from them for the Athenians. In 1657 it passed into the hands of the Turks, from the Venetians.

Le Moine, James MacPherson, a Canadian historian; born in Quebec, Jan. 24, 1825. His historical works are so fair in spirit and accu-

rate in statement as to disarm adverse criticism. Knighted 1897; died 1912.

Lemoine, Francois, a French historical painter; born in Paris in 1688. He painted the ceiling in the Hall of Hercules at Versailles, a painting 64 feet long and 54 broad, which occupied him seven years. In a fit of insanity he put an end to his life in Paris, June 4, 1737.

Lemon, the fruit of a small tree belonging to the same natural order as



LEMON.

the orange. There are many varieties of the lemon.

Lemon, Mark, an English humorist; born in London, England, Nov. 30, 1809. In 1841 he helped to establish "Punch," of which for the first two years he was joint-editor with Henry Mayhew, and thereafter sole editor till his death, in Crawley, Sussex, May 23, 1870.

Lemonnier, Camille, a Belgian novelist; born in Brussels, March 24, 1835. He died in 1913.

Le Moyne, Charles, a French pioneer; born in Normandy, France, in 1626. Proceeding to Canada in 1641, he lived among the Huron tribe of Indians and fought with the Iroquois. In 1668 Louis XIV. made him Seigneur de Longueuil, and af-

terward also de Chateauguay. He was for several years captain of Montreal, and died in 1683.

Lemur, the name of the typical genus of the Lemurinae. Habitat, Madagascar and the adjacent islands. It contains many species, the most important of which are described under their popular names. Generic characteristics: Long snout, small flat skull, long body, with narrow flanks. Hind limbs rather longer than the fore, long furry tail, hands and feet short, with a broad great toe; ears tufted or hairy, and moderate in length. In some kinds the head is surrounded by a ruff of fur; the color varies even in individuals of the same species. The true lemurs are diurnal arboreal animals, principally frugivorous, but feeding occasionally on birds' eggs, and even small birds.

The flying lemurs are represented by a single genus including a few species. The flying membrane or patagium, from which their peculiar characteristics are derived, connects the fore and hind limbs, extending along the sides of the body and of the neck and also joins the hind limbs and tail. The membrane also unites the digits of the foot, and is hairy on both sides. The fore limbs are longer and more powerful than the hind limbs. Neither the great toes nor thumbs can be opposed to the other digits; and the toes number five on each foot. These forms are arboreal in their habits, and make short flying leaps from tree to tree, the membrane acting like a parachute in supporting them during their flight or leap through the air. They are fruit-eaters, but also prey upon insects and birds. They are nocturnal in habits; and when at rest suspend themselves from trees by the limbs, the body and head being pendent. The mammary glands are four in number and are placed on the breast. All other *Quadrumanas* possess only two mammae. The most familiar species is that of Java and the neighboring islands. It measures about 20 inches in length.

Lemures, the general designation given by the Romans to all spirits of departed persons, of whom the good were honored as Lares, and the bad (Larvæ) were feared as capable in

their night journeys of exerting a malignant influence upon mortals.

Lena, a river of Eastern Siberia, rising amid the mountains on the N. W. shore of Lake Baikal, in the government of Irkutsk, flows first N. E. to the town of Yakutsk, where it is $6\frac{1}{2}$ miles wide, then N. to the Arctic Ocean, into which it falls by several mouths, forming a delta 250 miles wide. Its course is 3,000 miles in length, the area of its basin 772,000 square miles.

Lenine, Vladimir Ilitch Ulianov, born 1870; Russian Soviet leader. He became prominent early as leader of the Social Democrats. He with Trotsky brought about the fall of the Kerensky government set up by the revolution of 1917. He assumed dictatorial authority over the Bolsheviks and Communist parties and became practical ruler of Russia. He died in 1924.

Leningrad. Formerly known as St. Petersburg. Name changed Sept. 21, 1914, because of German origination, to Petrograd, and later changed to Leningrad in Jan., 1924, in honor of soviet leader, Lenine. Pop. (1927) 1,614,008.

Lens, a town of France, 9 miles N. E. of Arras, 12 miles S. E. of Bethune on the Souchez river. It is in the midst of a rich coal and iron field; manufactures laces, leather, sugar, oil, soap, gin, brandy, and beer; and has brick and lime kilns and spinning mills. Lens was taken several times in the wars of Flanders; was the scene of a notable victory of Louis II., of Bourbon, over the Spaniards in 1648; and was in the heart of the great drive of the Entente Allies against the German line in 1917. Pop. about 30,000.

Lentil, a small branching plant, about a foot and a half high; the leaves with 8 to 10 oblong leaflets, and pale blue flowers in twos and threes, and short legumes with two to four seeds. In Egypt and Syria lentils, parched in a frying-pan, are sold as nourishing food, especially for those who are going on long journeys. The lentils of Scripture were *Ervum lens*; the red pottage made by Jacob was composed of them (Gen. xxv: 34; II Sam. xvii: 28; xxiii: 11; Ezek. iv: 9).

Lenz, Oskar, a German traveler; born in Leipsic, April 13, 1848. He visited the W. coast of Africa in the service of the German African Society, and spent three years in exploring the course of the Ogowe. He next visited Morocco and Timbuku.

Leo ("the lion"), in astronomy, the name given to one of the 12 zodiacal constellations in the midnight sky of spring.

Leo I., surnamed The Great, Pope, succeeded Sextus III. in 440. He took a very decided part against the Manichæans and other schismatics, held a council at Rome against Eutyches in 449, and presided by his legates at the General Council of Chalcedon two years later. When Attila invaded Italy, Leo I. was sent by the Emperor Valentinian to dissuade him from his threatened march on Rome, and Rome was saved. Leo I. afterward saved the city from being burned by Genseric. He is the first Pope of whom we possess any written works. He died in 461.

Leo X. (Giovanni de Medici), Pope, son of Lorenzo the Magnificent, sovereign of Florence; born in Florence, Italy, in 1475. He died in 1521.

Leo XIII. (Gioacchino Pecci), Pope; born in Carpineto, Italy, March 2, 1810. Was elected Pope in 1878, on the death of Pius IX. He died at Rome after a short illness, due to old age, July 20, 1903. He was noted for his personal good qualities, and his abilities as a statesman, and sought to bring the Roman Church into line with modern progress. In 1902 and 1903 the United States government, through Governor-General Taft, negotiated with the Pope to bring about the withdrawal from the Philippine Islands of members of religious orders said to be obnoxious to the natives and unfriendly to American rule.

Leon, an ancient kingdom of Spain, equivalent generally to the modern provinces of Leon, Palencia, Valladolid, Zamora, and Salamanca.

Leonardo da Vinci, an Italian painter, sculptor and architect, born in Vinci, Italy, in 1452; died 1519.

Leonidas, a son of Anaxandrides, King of Sparta, succeeded his half-

Leonides

brother, Cleomenes I., about 491 B. C. When the Persian monarch Xerxes approached with an immense army, Leonidas opposed him at the narrow pass of Thermopylae (480 B. C.) with a force of 300 Spartans and rather more than 5,000 auxiliaries. The Persians attempted in vain to win over Leonidas by the promise of making him ruler of the whole of Greece; and when Xerxes sent a herald calling the Greeks to lay down their arms, the Spartans answered: "Let him come and take them." The treachery of one Ephialtes having made it impossible to bar any longer the progress of the foe, Leonidas and his little band, having sent away the auxiliary force, threw themselves on the swarming myriads and found a heroic death.

Leonides, or **Leonids**, popularly known as meteors; the finest of the meteoric rings which the earth cuts through in her annual revolution. It is encountered annually on Nov. 14. The magnificent display on Nov. 14, 1866, was from Leonides.

Leonowens, Anna Harriette Crawford, an Anglo-American educator; born in Caernarvon, Wales, Nov. 5, 1834. In 1863 she was appointed governess in the family of the King of Siam. She was four years in the king's household at Bangkok, acting as secretary to the king and instructor to the royal family. The King of Siam was educated by her. She came to the United States in 1867; opened a school in New York to prepare teachers in the kindergarten system.

Leopard, sometimes called the panther—"the pard" of Elizabethan writers. It has been known from early historical times, and has a wide geographical range, being found throughout the African continent, the whole of the S. of Asia, and in Ceylon, Java, Sumatra, and Borneo. It ranks third in importance in the family Felidae; varying in length from $3\frac{1}{2}$ – $4\frac{1}{2}$ feet; tail measurement $2\frac{1}{2}$ –3 feet, height at shoulder about 30 inches, but larger and smaller specimens have been met with. Color, pale fawn to rufous-buff, thickly studded with dark rosette-shaped spots, which unite and form bands on the medio-dorsal line, the hind-quar-

Leopold

ters, and legs; the tail is covered with similar spots; white beneath and on the inside of the limbs. The leopard is fierce and blood-thirsty, often killing far more than it can devour, either from love of slaughter or for the sake of the fresh blood, and lies in ambush for or steals stealthily on its prey, which consists of almost any animal it can overcome, though it is said to evince a preference for the flesh of dogs, and, strange to say, for that of persons suffering from smallpox. In India it often attacks women and children.

Leopardi, Giacomo, Count, an Italian poet; born in Recanati, Tuscany, Italy, June 29, 1798. He died in Naples, June 14, 1837.

Leopard Cat, a beautiful Indian species. Yellowish-gray to bright tawny, white below, longitudinally striped on head, shoulders, and back, spots on the side. Extreme length from 35 to 39 inches, of which about 12 are made up by the tail. Found in India from the hilly regions to Ceylon, and extends W. to Java and Sumatra. It is extremely fierce, and is said to drop on deer, and eat its way into the neck.

Leopard Wood, the wood of a tree of Trinidad and Guiana, allied to the cow tree.

Leopold I., Emperor of Germany, son of Ferdinand III.; born in 1640; died in 1705.

Leopold I., King of the Belgians; born in Coburg, Dec. 16, 1790. He died Dec. 10, 1865.

Leopold II., King of the Belgians; son of the preceding; born April 9, 1835. He was married in 1853 to Marie, Archduchess of Austria (born 1836; died Sept. 19, 1902), daughter of Archduke Joseph. He early manifested an interest in Africa and in 1885 he became sovereign of the Kongo Free State. During his reign there was an extension of the suffrage and a spread of advanced ideas in Belgium. He was regarded as one of the best business men of Europe. In 1906 he was severely arraigned in civilized countries for allowing the Kongo atrocities to continue. He died Dec. 17, 1909, and was succeeded by his nephew, who was crowned king as Albert I. on Dec. 22, the same year.

Lepanto (anciently Naupactus, now called by the Greeks Epakto), a small town of Greece, and the seat of a bishop; on the N. side of the entrance to the Gulf of Corinth. Near Lepanto took place the celebrated naval battle between the Turks on the one side and the papal galleys and those of the Venetians and the Spaniards on the other, on Oct. 7, 1571, in which the Christians, commanded by Don John of Austria, achieved a decisive victory. Of the Turks 30,000 fell or were taken prisoners, while 130 Turkish vessels were captured, and 12,000 Christian slaves liberated; the Christians lost 8,000 men and 15 galleys. In this battle Cervantes lost an arm. The town became Greek in 1829.

Lepidoptera, an order of insects having the wings clothed with scales implanted in the wings, with their margins overlapping other scales; it is these, and not the wings themselves, that are so gayly colored. The wings are four.

Lepidosiren, a genus of fishes. The South American mud-fish, above three feet long, is found in the river Amazon. It has only five branchial arches with four intervening clefts, 55 ribs, small eyes, covered with skin. Sir Richard Owen shows that it is only by the organ of smell that it is proved to be a fish and not a reptile. Darwin believed that the reason why a fish of a pattern so antique has survived is, that it is an inhabitant of fresh water, where the struggle for existence is less severe than in the ocean.

Leprosy, a disease characterized by the formation of scaly patches on the skin, of different sizes, but having always nearly a circular form. It prevails in parts of the East, including Hawaii.

Lepsius, Karl Richard, a German Egyptologist; born in Naumburg, Dec. 23, 1810. He died in Berlin, July 10, 1884.

Le Queux, William, an English novelist; born in London, July 2, 1864.

Lerdo de Tejada, Sebastian, a Mexican statesman; born in Jalapa, Mexico, April 25, 1825; appointed a judge of the supreme court in June,

1857; was minister in June, 1857; was Minister of Foreign Affairs for a short time in the same year; member of Congress in 1861-1862 and in 1862-1863; was a companion of President Juarez in 1863-1867, during which time he was successively Minister of Justice and Minister of Foreign Affairs. He was elected chief-justice of the supreme court in December, 1867, and on the death of Juarez, July 18, 1872, he succeeded to the presidency; was elected to that post in the following November. In 1876 he was declared re-elected by Congress. This action resulted in a revolution and Lerdo was forced to leave the country. He died in New York city, April 21, 1889.

Lerouville, a small town of France, 27 miles from the Lorraine frontier, 33 miles W. of Nancy, 40 miles S. W. of Metz, on the railroad between Paris and Nancy. The inhabitants are chiefly engaged in agriculture. Pop. about 4,000.

Le Roux (R. C. Henri), known as Hughes, a French journalist; born in Havre in 1860. In early life he was connected with the "Political and Literary Review," and subsequently succeeded Jules Claretie as writer of the Paris chronicle in the "Temps." He is the author of a series of popular romances.

Leroy-Beaulieu, Anatole, a French historian; born in Lisieux, in 1842. He became Professor of Modern History in the Free School of Political Sciences, 1881. His principal work, after extensive travels in Russia, is "The Empire of the Tsars and the Russians." Died in 1912.

Leroy-Beaulieu, Pierre Paul, a French economist; born in Saumur, Maine-et-Loire, Dec. 9, 1843. He was the founder and editor of "L'Economiste Francais." He is conservative in his views, and opposed to socialism.

Le Sage, Alain Rene, a French novelist and dramatist; born in Sarzeau, near Vannes, May 8, 1668. He died in Boulogne-sur-Mer, Nov. 17, 1747.

Leze Majesty. See Leze Majesty.

Leslie, Charles Robert, an American painter; born in London, Oct. 19, 1794, his parents being Americans. From 1848 to 1851 he was

Professor of Painting at the Royal Academy, England. He died in London, May 5, 1859.

Leslie, Eliza, an American prose-writer; born in Philadelphia, Nov. 16, 1787. She died in Gloucester, N. J., Jan. 2, 1858.

Leslie, Frank, an American publisher; born in Ipswich, England, in 1821; proper name, Henry Carter. At 17 he was placed in a mercantile house in London. "Frank Leslie" was the name he adopted in sending in sketches to the "Illustrated London News," and the success of these determined him to join the staff of that paper. In 1848 he came to the United States, where he assumed the name of Frank Leslie by a legal process, and in 1854 founded the "Gazette of Fashion" and the New York "Journal." "Frank Leslie's Illustrated Newspaper" in 1855 (German and Spanish editions later), the "Chimney Corner" in 1865; followed by a number of other periodicals. He was Commissioner to the Paris Exposition, 1867. Died Jan. 10, 1880. His publications were carried on for a while by his widow.

Lesseps, Ferdinand, Vicomte de, a noted French diplomat and engineer; born in Versailles, Nov. 19, 1805. He was employed several years in the French consular and diplomatic service. In 1854, on the invitation of Said Pasha, he visited Egypt to study the problem of canalizing the Isthmus of Suez; the results of his studies were stated in a memoir, "Piercing the Isthmus of Suez." He was made chief director of the works in 1856. The canal was opened to traffic Aug. 15, 1869. His attempt to pierce the Isthmus of Panama resulted in failure and a great political scandal. He died Dec. 7, 1894.

Lesser Civet, an æluroid mammal. Habitat: Nepal and Madras, Java and Formosa, and parts of China. Color yellowish or brownish-gray, with longitudinal bands on the back and regular spots on the side. The tail—from 16 to 17 inches long—has eight or nine complete dark rings. Length of body and head, about 24 inches.

Lessing, Gotthold Ephraim, a German critic, dramatist, and miscel-

laneous writer; born in Kamenz, Saxony, in 1729. He died in 1781.

Lesson, a reading, especially a portion of Scripture appointed to be read, as in the Common Prayer-book.

Lester, Charles Edwards, an American writer; born in Griswold, Conn., in 1815. He died in Detroit, Mich., 1890.

Lesneur, Eustache, a French painter; born, 1617; died, 1655.

Lesneur, Daniel. See LOISEAU.

Lethe, in Greek mythology, the stream of forgetfulness in the lower world, from which souls drank before passing into the Elysian Fields, that they might lose all recollection of earthly sorrows.

Letter, a character used in printing. Type either of metal or wood. Used collectively to represent type, as "a case of letter," "a font of letter."

Letter of Marque, the commission authorizing a privateer to make war upon, or seize the property of, another nation. Letters of marque were abolished among European nations by the treaty of Paris in 1856.

Le Tremblois, a town of France, close to the Belgian border and W. of Mezierres. It is immediately adjacent to the battlefield where the Grande Conde, at the age of 22, gained the greatest of his victories over the Spaniards in 1643. During the Franco-Prussian War a German division occupied this region, and during a heavy fog, Jan. 5, 1871, bombarded the neighboring town of Rocroi for five hours before its defenders would surrender.

Lettres de Cachet, the name given to the warrants of imprisonment issued by the kings of France before the Revolution.

Lettuce, a smooth, herbaceous annual plant, containing a milky juice and in general use as a salad.

Leuctra, a village of Bœotia, in ancient Greece, famous for the great victory which the Thebans under Epaminondas here won over the Spartan King Cleombrotus (371 B. C.).

Leutz, Emanuel, an American artist; born in Gmund, Wurtemberg, May 24, 1816; was brought to the United States in infancy. He died in Washington, D. C., July 18, 1868.

Levant, a name given to those countries, and more especially to the coasts of those countries lying on the E. part of the Mediterranean and the neighboring seas, as Turkey, Greece, Egypt, Asia Minor, Syria, etc.

Levari facias, a writ of execution at common law, executed by the sheriff upon the goods and lands of a debtor.

Levee, the act or time of rising. In the United States this term is applied to an assemblage of guests, and to Presidential receptions.

Levee, in hydraulic engineering an embankment to restrain water, of a magnitude such as those of the Mississippi, the Ganges, Holland, Danube, and the Po.

Level, a horizontal gallery or passage in a mine. The workings at different depths are said to be at the different levels—the 50 or 60 fathoms level, and so on.

Lever, **Charles James**, an Irish novelist; born in Dublin, Aug. 31, 1806. He obtained a diplomatic post at Florence about 1845, was appointed vice-consul at Spezzia in 1858, and in 1867 at Trieste, where he died, June 1, 1872.

Leverrier, **Urbain Jean Joseph**, a French astronomer; born in St. Lo, in Normandy, March 11, 1811. In 1854 Leverrier succeeded Arago as director of the Observatory of Paris, an office which, save during an interval of three years (1870-1873), he held till his death, Sept. 23, 1877.

Levis, city and capital of Levis county, Quebec, Canada; on the St. Lawrence river and the Grand Trunk and other railroads; opposite Quebec city; is fortified with three large works on nearby heights; has government dry-docks, considerable manufacturing and farming interests, and several colleges. Pop. (Est.) 8,000.

Levite, the descendants of Levi, one of the 12 sons of Jacob. Moses and Aaron were of Levite extraction and when the descendants of Aaron were set apart to perpetuate the priesthood, the other Levites were designated to assist in the work of the sanctuary.

Levy, a term used for the compulsory raising of a body of troops from

any specified class in the community for purposes of general defense or of offense when the existing military forces are insufficient.

Lewald, **Fanny**, a German novelist; born of Jewish parents in Konigsberg, March 24, 1811. She died in Dresden, Aug. 5, 1889.

Lewes, the county town of Sussex, England, 50 miles S. of London. Race meetings are held three times a year near Mount Harry on the Downs, where, on May 12, 1264, a great battle was fought between Henry III. and the insurgent barons under Simon de Montfort. Pop. (1911) 10,972.

Lewes, **George Henry**, an English critic and man of letters; born in London, April 18, 1817. Lewes was married unhappily and had children, when his connection with George Eliot began in July, 1854; it ended only with his death at their house in Regent's Park, Nov. 30, 1878.

Lewis, **Alonzo**, an American poet; known as the "Lynn bard"; born in Lynn, Mass., Aug. 28, 1794. He was the author of "Forest Flowers and Sea Shells," which reached 10 editions, and "History of Lynn." He died in Lynn, Mass., Jan. 21, 1861.

Lewis, **Andrew**, an American military officer; born in Ulster co., Ireland, in 1730. He came with his father to America in 1732. They settled in Bellefonte, Augusta Co., Va., and were the first white residents of that county. Lewis was distinguished for his military ability, and for his great strength and commanding figure. He was an especial favorite of Washington, and his statue is one of the six which surround the Washington monument in Richmond, Va. He died in 1780.

Lewis, **Charles Bertrand** ("M. Quad"), an American journalist; born in Liverpool, O., 1842. He received his education at the Michigan Agricultural College. During the Civil War he served in the Union army. For many years he was on the staff of the Detroit "Free Press," and after 1891 connected with the New York "World."

Lewis, **Dio**, an American physician; born in Auburn, N. Y., March 3, 1823. He died in Yonkers, N. Y., May 21, 1886.

Lewis, Meriwether, an American soldier and explorer; born near Charlottesville, Va., Aug. 18, 1774. He was employed by the government with Clarke to make discoveries in the N. parts of the American continent, with a view to the extension of commerce to the Pacific Ocean. In 1805 they undertook a journey for the purpose of discovering the source of the Missouri; and they passed the winter in an icy region, 4,000 miles beyond its confluence. Lewis was soon after made Governor of Louisiana, and Clarke a general of its militia, and agent of the United States for Indian affairs. He died near Nashville, Tenn., Oct. 8, 1809.

Lewiston, a city in Androscoggin county, Me.; on the Androscoggin river and the Maine Central and other railroads; 35 miles N. of Portland; has fine water-power from a 60-foot fall of the river; is chiefly engaged in manufacturing cotton and woolen goods; and is the seat of Bates College and the Cobb Divinity School. Pop. (1930) 34,948.

Lexington, city and capital of Fayette County, Ky.; on the Chesapeake & Ohio and other railroads; 29 miles S. E. of Frankfort; is the center of the famous blue grass region; has large tobacco, liquor, livestock, and blooded-horse interests; contains the Kentucky University, State Agricultural and Mechanical College, Hamilton and McClelland Female colleges, Sayre College (women), St. John's and St. Catherine's academies, Transylvania College, State Reform School, and a famous racing track; and was once the State capital. Pop. (1928) tal. Pop. (1930) 45,736.

Lexington, a town in Middlesex co., Mass., on the Boston and Maine railroad; 12 miles N. W. of Boston; and is principally engaged in farming, dairying and market-gardening. Lexington was settled in 1642 and was long known as Cambridge Farms, and was incorporated as a town in 1713. It was the scene of the first conflict between the colonists and British troops in the Revolutionary War, on April 18, 1775. The British destroyed the stores of the colonists, but lost 273 men. Pop. (1930) 9,467.

Lex Talionis, the law of retaliation, common among ancient and barbarous nations, which demanded an eye for an eye and a tooth for a tooth.

Leyte, an island in the Philippines; area, 3,872 square miles. With dependent islands it constitutes a province; area, 4,214 square miles; pop. 400,000.

Leze Majesty, a crime committed or attempted to be committed against the sovereign of a state. In the United States this form of treason is without constitutional recognition. Germany gives it vigorous force in all criticisms of the emperor's acts or person.

Lhasa, the capital city of Tibet, and residence of the Grand Lama. The city is circular, 2½ miles in circumference, and occupies an open level plain surrounded by mountains. It has numerous bazaars, and temples, and is remarkable for the extensive monasteries crowning surrounding hill-tops, which are greatly resorted to by the Chinese and Mongols as schools of the Buddhist religion and philosophy. It is the "Rome of Buddhism." Pop. (Est.) 20,000.

Li, or **Cash**, the copper coin of China, with a square hole in the middle, and an inscription on one side. Ten li make one candareen, 100 a mace, 1,000 a liang or tael, the only Chinese silver coin, average value about \$1.20.

Libation, a sacrifice, by an actual drink offering, by pouring liquids—usually oil or wine—on the ground in honor of a divinity, or by the combination of both methods.

Libby Prison, a military prison in Richmond, Va., where Federal officers were confined during the Civil War. Previous to the Civil War it was used by a Mr. Libby, as a tobacco warehouse. It was after the first battle of Bull Run that it was used as a prison, and thus continued till the end of the war. The building was moved to Chicago in 1888-9, where it is used as a museum. It was viewed with curiosity by millions at the World's Fair, which was held in that city in 1894.

Libel, originally any little book or writing; a declaration, a certificate. A defamatory writing, print, picture, or publication of any kind, containing any statements or representations ma-

liciously made, and tending to bring any person into ridicule or contempt, or expose him to public hatred or obloquy; any obscene, blasphemous, or seditious publication whether in writing, print, signs, or pictures. The act or crime of publishing a libel; as, to be charged with libel.

In United States civil and admiralty laws, a document of the plaintiff setting forth the charges and allegations made against the defendant; and specifically in case of a ship, a statement of the claims held against her by the plaintiff.

Liberal, a name given to that party in England which is opposed to the Conservative party. Liberals who stand with the Conservatives on Irish questions are called Liberal Unionists.

Liberal Republican Party, a party organized in 1872 by Republicans who were dissatisfied with General Grant's first administration as President. At a convention held by them in Cincinnati, in that year, Carl Schurz was elected its president, and a platform adopted demanding civil service reform, local self-government, and universal amnesty, recognizing the equality of all men, recommending the resumption of specie payment, etc. Horace Greeley and B. Gratz Brown were named for President and Vice-President. This platform and these nominations were adopted by the regular Democratic convention of that year, but dissensions arose, and other candidates were nominated, the result being that the Republican nominee, General Grant, was elected by an overwhelming majority and the Liberal Republican party was thereafter practically dead.

Liberal Unionist Party, in British politics, a party composed of Liberals who formed an organization under the leadership of the Marquis of Hartington, who objected to Gladstone's Irish Government and Land Purchase Bills as being destructive of the integrity of the United Kingdom and dangerous to the empire. They gained their immediate object by coalescing with the Conservatives, and in the election which followed the defeat of the Gladstonian ministry they succeeded in returning some 80 members to Parliament. They have since acted with the Conservatives.

Liberia, a negro republic on the W. coast of Africa, founded in 1820 by liberated American slaves under the auspices of the American Colonization Society, and recognized as an independent State in 1847. It lies between the rivers San Pedro and Manna, has 350 miles of seaboard, and extends some 200 miles inland; area estimated at 40,000 square miles. The soil is fertile, well watered, and highly adapted to the cultivation of all tropical products. The chief crop is coffee, increasing quantities of which are grown from year to year and exported, other exports being palm-oil, groundnuts, caoutchouc, and ivory. The climate is very unhealthy for Europeans. There is a large public debt, expenditure exceeding revenue. The English language predominates among the governing class, churches and schools are provided, and civilization is making some progress among the natives. The population in 1928 was estimated at 1,500,000 to 2,100,000. Monrovia is the capital. The government is on the model of the United States.

In 1911 the U. S. Government perfected an arrangement whereby a loan of \$1,500,000 was raised for consolidating the Liberian debt, and France assumed control of about 9,000 square miles of territory, long in dispute, but nominally under the rule of Liberia. Early in the World War Liberia severed diplomatic relations with Germany and on Aug. 7, 1917, declared war against her.

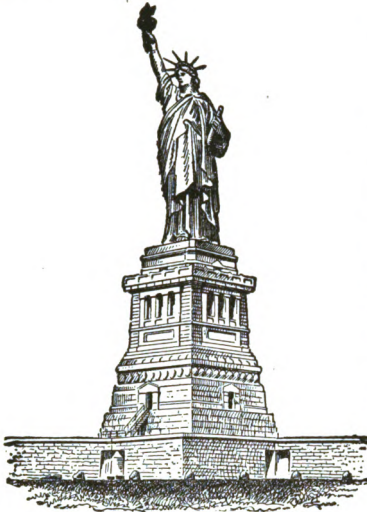
Liberian Hippopotamus. See HIPPOPOTAMUS.

Liberty Bell. See BELL.

Liberty, Cap of, a cap used as a symbol of liberty. In ancient times Roman manumitted slaves put on what was termed the Phrygian cap, in token of their freedom. In modern times a name given to a red cap worn by French and other revolutionaries.

Liberty, Statue of, a colossal statue on Bedloe's Island, N. Y. On Oct. 28, 1886, after more than 12 years of preparation, the colossal statue of Liberty, given by the people of France to the United States, was dedicated and unveiled in New York harbor. The statue was the conception of M. Bartholdi, who designed it for the Franco-American Union in 1874. It was built by popular subscriptions of

the people of France. See also COL-
OSSUS.



BARTHOLOMI'S STATUE OF LIBERTY.

Liberty Party, The, in the United States, grew out of the Anti-slavery Society, and was more widely known for the persistent agitation of its adherents than its numbers. In 1840 it nominated James G. Birney, secretary of the Anti-slavery Society, for president, casting 7,059 votes; and again, in 1844, when he received 62,300 votes.

Libraries, Public. These institutions have attained a remarkable development in the United States in recent years. The more notable American public libraries are the Library of Congress at Washington, the New York Public Library, the Boston Public Library and those in Chicago, Pittsburg, and Newark.

The U. S. Bureau of Education reported, besides some 15,000 smaller libraries, 5,469 having 3,000 volumes or more, making a total of 140,402,069 volumes. These were classified as public, society, and school libraries. There were at least nine libraries in the world having over 1,000,000 books

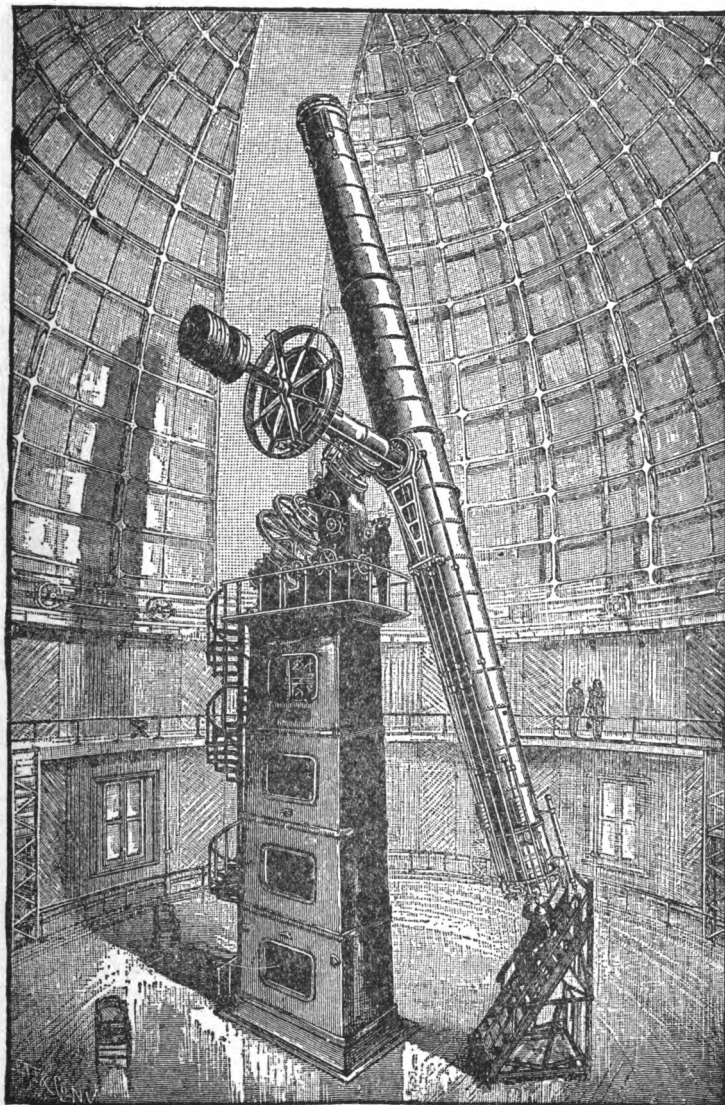
on their shelves: the Bibliotheque Nationale of Paris, the British Museum, the Imperial Library of Petrograd, the Congressional Library of Washington, Boston Public Library, Harvard University Library, Yale University Library, Chicago Public Library, and the New York Public Library.

Libya, the name given by the oldest geographers to Africa. In Homer and Hesiod it denoted the whole of this quarter of the globe, except Egypt; but it is also applied to others, in a more restricted sense, to the N. part of the country, from Egypt and the Arabian Gulf W. to Mount Atlas. The great sandy tract, of which the Sahara forms the principal part, was called the Libyan Desert. To what extent it was known to the ancients is not certain.

Lichens, familiar plants which form encrusting growths on rocks and stones, on the stems and branches of trees, on walls and fences, and on the earth itself. They are common in every zone, and at all levels from the seashore to the mountain summit.

Lichfield, a city of Staffordshire, England. Its large and handsome cathedral has a central spire 280 feet high, and two western spires each 180 feet high. Dr. Johnson was born at Lichfield. Pop. (1921) 8,394.

Lick, James, an American philanthropist; born in Fredericksburg, Pa., Aug. 25, 1796. In 1819 he was employed in a piano factory in Philadelphia, and a year later started in the same business for himself in New York, and afterward in various parts of South America. In 1847 he emigrated to California, taking with him \$30,000, which he invested in real estate in San Francisco, and its rapid advance in value made him wealthy. In 1874 he placed his entire property in the hands of trustees, to be devoted to public and charitable purposes. The bequests he then made he changed in some respects in May, 1875. The total amount thus given was \$1,765,000, of which \$700,000 was for Lick Observatory, to be connected with the University of California, \$150,000 for free public baths in San Francisco, and \$540,000 for an institution to be called the California School of Mechanical Arts. For himself he re-



LICK OBSERVATORY, INTERIOR.

served \$500,000, gave his son \$150,000, and each of his relatives sums varying from \$2,000 to \$5,000. He died in San Francisco, Cal., Oct. 1, 1876.

Lick Observatory, an astronomical station; on the summit of Mount Hamilton, Santa Clara co., Cal.;

Liddell, Henry George, an English lexicographer; born in 1811. He died Jan. 18, 1898.

Lie, Jonas Lauritz Edemil, a Norwegian novelist, son of a lawyer; born in Eker Nov. 6, 1833. His novels give admirable realistic pictures of life in Norway, especially of the



LICK OBSERVATORY, EXTERIOR.

erected through the liberality of James Lick, the testator imposing in the trust-deed the obligation of erecting "a powerful telescope, superior to and more powerful than any telescope yet made." It was mounted in 1887, and was first used in 1888.

fisher-folk of the W. coast. His popularity is due to the delicate poetry that lights up his books, to his fidelity to nature and his genial humor. He died in 1908.

Lieber, Franz, an American publicist; born in Berlin, Germany,

March 18, 1800. He volunteered as a soldier at 15, and was at the battles of Ligny, Waterloo and Namur. He served also in the Greek war of independence, recording his experiences in "Journal de Greece" (1823). He settled in the United States in 1827. While Professor of History and Political Economy in South Carolina College, he wrote the works on which his fame mainly rests. In the beginning of the Civil War he drew up by order of President Lincoln the "Code of War for the Government of the Armies of the United States in the Field." He died in New York, Oct. 2, 1872.

Lieber, Oscar Montgomery, an American mineralogist and chemist; born in Boston, Mass., Sept. 8, 1830; son of Francis Lieber. He died in Richmond, Va., June 27, 1862.

Liebig, Justus, Baron von, a German chemist; born in Darmstadt in 1803; died at Munich in 1873. Probably more than any other great chemist, he made the science minister to practical utilities.

Liebknecht, Wilhelm, a German socialist; born in Giessen, March 20, 1826. He was editor-in-chief of the organ of the Social Democratic party, "Vorwärts"; author of "The Fundamental Question" (1876); "A Glance at the New World" (1887), recounting his observations during a visit to the United States, etc. He sat for years in the Reichstag as a member of the Social-Democratic party and was often arrested and exiled. He died Aug. 6, 1900.

Liechtenstein, an independent principality, protected by Austria, between Vorarlberg, Tyrol, and Switzerland; area, 65 square miles; pop. (1921) 11,500. Capital, Vaduz.

Liege, a town of Belgium, capital of a province of the same name, on the Meuse river, 54 miles S. E. of Brussels, divided into an upper and a lower town, the latter at the junction of the Meuse and Ourthe rivers. Liege is one of the most important manufacturing centers in Europe, and is in a region rich in coal, iron, copper, lead, and marble. It has many noteworthy buildings, including a widely-known Conservatory of Music and an Academy of Art. The French captured the

region in the latter part of the 18th century, and afterward it was yielded to Belgium. Pop. (1922) 165,117. This beautiful city was wantonly ravaged by the Germans, in the World War, who attacked it on Aug. 4, 1914, the day after their invasion of Belgium, and occupied it on the 7th. See **APPENDIX: World War.**

Lieutenant-colonel, in the regular army, is the officer next in rank to a colonel and the senior of a major. He has actual command of a regiment.

Lieutenant-general, a general officer in the army; ranking above a Major-General and below a General.

Lieutenant-governor, an officer of several of the States, next below governor, whose duties he performs when needed.

Life-boat, a boat for saving persons from shipwreck. Its principal features are:—1. Great lateral stability, or resistance to upsetting. 2. Speed against a heavy sea. 3. Facility for launching and taking the shore. 4. Immediate self-discharge of any water breaking into her. 5. The important advantage of self righting if upset. 6. Strength. 7. Stowage-room for a large number of passengers.

The life-boat transporting carriage on which the life-boat is kept in the boat-house ready for immediate transportation to the spot most favorable for launching to the wreck is an important auxiliary. The boat is readily launched from it through a high surf.

Life Insurance, in its widest sense, is a contract entered into, generally by a company, to pay a certain benefit contingent upon the duration of one or more lives, for a stipulated consideration, called a premium. Life Insurance has so developed, that no safer financial enterprises exist, especially in the United States where a rigid supervision of companies is exercised by State departments acting under State laws.

On Jan. 1, 1928, the reports of the regular legal reserve life insurance companies showed: Number of companies, 331; assets, \$15,961,000,000; premiums received in previous year, \$3,145,585,000; total income, \$4,087,933,000; payments to policy-holders, \$1,699,000,000; number of policies in

force, 114,995,000; amount, \$95,206,315,000.

The assessment companies and fraternal orders reported: Number of organizations, 262; assets, \$824,304,000; assessments and collections, \$244,990,000; payments to policyholders, \$140,159,000; number of members, 8,665,044; amount of insurance in force, \$9,324,056,000.

After the United States had been forced into the World War, the Government proposed a scheme of life insurance for the soldiers and sailors who went into the war, as a substitute for the pension system, and in 1917 the plans were fully perfected and the system was established.

Life-Saving Service, a former bureau of the U. S. Treasury Department; organized in 1871 for assisting the shipwrecked from shore. By act of Congress of Jan. 28, 1915, the Life-Saving Service and the Revenue Cutter Service were consolidated under the name of the Coast Guard, and that was constituted a part of the military forces of the United States, to operate under the direction of the Secretary of the Treasury in time of peace, and under that of the Secretary of the Navy in time of war.

Liggett, Hunter, an American military officer; born in Reading, Pa., March 21, 1857; was graduated at the U. S. Military Academy in 1879; promoted to Brigadier-General, Feb. 12, 1913, and to Major-General, March 10, 1917. He served in Cuba and the Philippines; became President of the Army War College; and for a time was chief of the Panama Canal Board of Fortifications, and retired with rank of Major General in 1921.

Light, the natural agent which, by acting on the retina, excites in us the sensation of vision. Two leading hypotheses regarding its nature have been formed: the one the emission or corpuscular theory, which, though supported by the great name of Sir Isaac Newton, has been abandoned, and the other the undulatory theory, which now obtains. The latter assumes the existence everywhere through the universe of an extremely fine, elastic medium, called luminiferous ether, the undulations of which constitute light, and when they im-

pinge on the retina produce vision. Several methods of calculating the velocity with which light is transmitted are known. By one, the size of the minute circle through which the aberration of light makes stars apparently revolve is carefully noted. The result is that light is found to move about 100,000 times as fast as the earth, which gives the velocity about 190,000 miles per second.

Lighter, a barge for transporting merchandise and stores, on rivers and canals, over bars, and to and from vessels moored in a stream, or where they cannot be laden from or discharged on to a wharf or pier alongside.

Lightfoot, John, an English clergyman and scholar; born in Stoke-upon-Trent in 1602; died in Ely, Dec. 6, 1675. He was one of the most influential members of the Westminster Assembly in 1643, but often stood alone, as in the Erastian controversy. The chief work of this great scholar was the "Harmony of the Four Evangelists Among Themselves" (1644-1650).

Lighthouse, a lofty tower or other structure, erected at the entrance of a harbor, or at some important or dangerous part of a coast, and having a strong light at the top, to guide vessels and warn them of danger. Originally they were lighted up with fires, but now oil, gas, and electricity are used, the power of the light being increased by the adoption of glass reflectors, lenses and prisms.

Lightning, the dazzling light emitted by a large spark darting from clouds charged with electricity. In the lower regions of the atmosphere it is white, in the upper one somewhat violet, as is the spark of an electric machine in a vacuum. It does not uniformly take the zigzag form conventionally represented. The writer has seen it descend to the earth in a bluish stream by a series of curves. Again, he has seen it like a sharp and rugged antler standing upright, and across it a line of gleaming circles like a series of huge golden coins or a string of illuminated beads, and other forms. In the upper regions of the sky, where the air is rarified, it tends to take the form of sheet-lightning; sometimes called heat lightning;

in the lower regions it becomes more concentrated and moves in lines. As a rule lightning strikes objects from above, though occasionally ascending lightning has been seen. The loftiest buildings are most in danger from its effects, and so are tall trees, especially oaks and elms; the resin of pines, interfering with their efficiency as conductors, makes them more safe. When it sinks deeply into the ground it sometimes vitrifies the rocks, producing fulgurites. Lightning travels with such speed that a flash is seen the instant it occurs. Thunder, which is simply the noise of the explosion, takes about five seconds to travel a mile, hence the distance of any flash, followed by thunder, may be calculated. If a mile distant, the danger is but slight.

Lightning Conductor, an appliance designed to protect a building and its inmates against destruction or damage by lightning. It was invented by Benjamin Franklin in 1755.

Lightship, or **Lightboat**, a vessel serving as a lighthouse in positions where a fixed structure is impracticable. Octagonal lanterns, fitted with Argand lamps placed in the foci of parabolic reflectors, are usually hoisted on the mast; but they are less efficient and more expensive in maintenance than land lights.

Lignite, fossil wood, generally of Tertiary age, converted into a kind of coal.

Lignum Vitæ, the wood of *Guaiaum officinale*. It is a very hard and heavy wood, brought from Cuba and other West Indian Islands. When first cut it is soft and easily worked, but on exposure to the air it becomes much harder.

Ligny, a Belgian village, famous for the defeat of the Prussians under Blücher by the French under Napoleon, June 16, 1815, the same day on which Ney's command was engaged with the British under Wellington at Quatre-Bras. The Prussians lost 12,000 men and 21 cannon; the French, 7,000 men.

Liguori, Alfonso Maria de, a saint of the Roman Catholic Church, and founder of the congregation of the Most Holy Redeemer; born in Marianella, near Naples, in 1696. He

died in Nocera dei Pagani, Aug. 1, 1787, and was solemnly canonized in 1839.

Liguria, an ancient district of Italy, now comprised in Genoa and Nice.

Li Hung Chang, a Chinese statesman and diplomatist; born in Lu-chow, province of Ngan-hui, China, Feb. 16, 1823. He was a friend to foreigners and to Western civilization and culture. In 1896 he made a tour of the world, traveling overland, and was everywhere received with éclat as a highly distinguished guest. He acted a prominent part in adjusting the relations of China with foreign powers after the suppressing of the uprisings of 1900-1901. He died in Peking, China, Nov. 7, 1901.

Lilac. The common lilac is one of the most common ornamental shrubs cultivated in North America. It is a native of the N. of Persia, and was first brought to Vienna in the latter half of the 16th century by Busbecq, to whom we also owe the introduction of the tulip.

Liliuokalani, Queen of Hawaii; born Sept. 2, 1838. She was a sister of King Kalakaua, whom she succeeded as queen. She married John O. Dominis, an American, who became governor of Oahu. He died in 1891 and in the same year she ascended the throne. In 1893 she was deposed, the islanders adopting a republican form of government. On the annexation of Hawaii to the United States, in 1898, she returned to the island. She revisited the United States in the winter of 1901-02 to press her claims for indemnity. Died Nov. 11, 1917.

Lille, or **Lisle**, a fortified city of France, capital of the Department of Nord (French Flanders), on the Deule river, 9 miles from the Belgian border, 26 miles N. N. E. of Arras, 155 miles by rail N. E. of Paris. The city dates back to the early 11th century, and prior to the World War it had sustained seven sieges. Austrians and Spaniards held it successively, till Louis XIV. captured it from Spain in 1667. It surrendered to the Duke of Marlborough during the War of Succession, and became a part of France under the Treaty of Utrecht. Pop. (1926) 200,633. See APPENDIX: World War.

Lily, a genus of plants of the natural order Liliaceæ, containing a number of species much prized for the size and beauty of their flowers. Among the better known are: the lily-of-the-valley; the gigantic lily of Australia; the Chinese tiger-lily; and several fine Japanese species.

Lima, city and capital of Allen county, O.; on the Ottawa river and the Cincinnati, Hamilton & Dayton and other railroads; 71 miles N. of Dayton; is in a natural gas, oil, and grain region; has attractive natural and artificial lakes; is the seat of Lima Business College; and has locomotive and car works, oil refineries, and flour, pump, and straw-board plants. Pop. (1930) 42,287.

Lima, the capital of Peru; seven miles from Callao, its port on the Pacific, on the Rimac river. The numerous domes and spires give it a fine appearance from a distance, but the houses are mostly of unburnt brick. The cathedral, the convent of San Francisco, the exhibition palace, and the university with its national library and museum, deserve special mention. The climate is very agreeable, but the locality is subject to earthquakes, the most destructive being that of 1746. Lima was founded in 1535 by Pizarro, and called Ciudad de los Reyes (City of the Kings). In January, 1881, Lima capitulated to the Chileans, who held it for over two years. Pop. (1920) 176,467.

Lime, the oxide of the metal calcium, which was discovered by Davy in 1808, who obtained it by the electrolysis of calcium chloride. The metal is difficult to prepare and has only been obtained in small quantities. It combines with oxygen so readily that it can only be preserved with difficulty. In combination with oxygen it is, however, exceedingly abundant in nature.

Lime, a tree, more fully called the sweet lime. It grows about eight feet high, with a crooked trunk and many-diffused branches armed with prickles. The leaves are ovate-lanceolate, nearly entire. The fruit, which is greenish-yellow, is almost globular, except that there is a protuberance at the top; the surface is regular; shining rind. It is about an inch and a half in

diameter. The juice is very acid. There are various cultivated varieties. Some think it a variety of the citron.

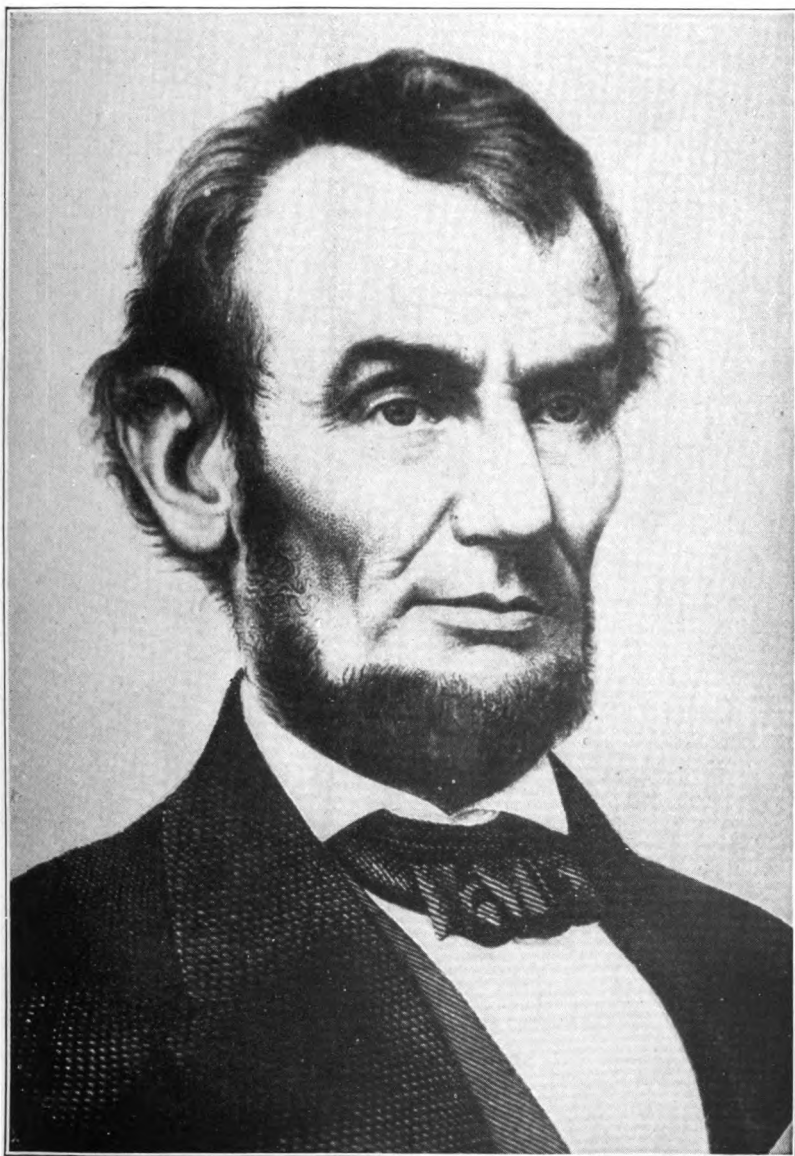
Lime Light, or **Drummond Light**, a light of extreme brilliancy, invented by the English Lieutenant Drummond, consisting of a jet of oxygen and hydrogen, mixed in the proportions to form water, directed upon a cylinder of lime. The lime, which is infusible, becomes white-hot, and emits a pure white brilliant light of such intensity that it has been distinctly seen at a distance of 112 miles.

Limited Liability. Liability is said to be limited when the persons liable are bound under clearly-defined conditions. The phrase is chiefly used in connection with stock companies, and in that connection it means that the stockholders shall not be called upon, under any circumstances, to contribute more than the par value of the shares of stock for which they have subscribed. If the debts of such a company, when wound up, amount to more than the resources of the company can meet, the creditors must bear the loss.

Limited Monarchy, a monarchy in which the power of the sovereign is not absolute, but is constitutionally limited, usually by assemblages of the nobility, clergy, and elected representatives of the people. The sovereignty is a headship more or less real; it is not an autocracy.

Limpet, a popular name for certain prosobranchiate gastropods. Limpets are world-wide in their distribution. They are vegetable feeders, and inhabit rocks between tidemarks, returning to the same place after feeding, and adhering so firmly that it requires a great effort to detach them from their resting-place.

Lincoln, city and capital of Lancaster county and of the State of Nebraska; on Salt and Antelope creeks and the Chicago & North-western and other railroads; 55 miles S. W. of Omaha; is an important manufacturing city and commercial center for a large farming area, with an extensive jobbing trade and heavy shipments of grain and livestock; and has the State, Cotner and Wesleyan universities. Pop. (1920) 54, 948.



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ABRAHAM LINCOLN (1809-1865)
Sixteenth President of the United States



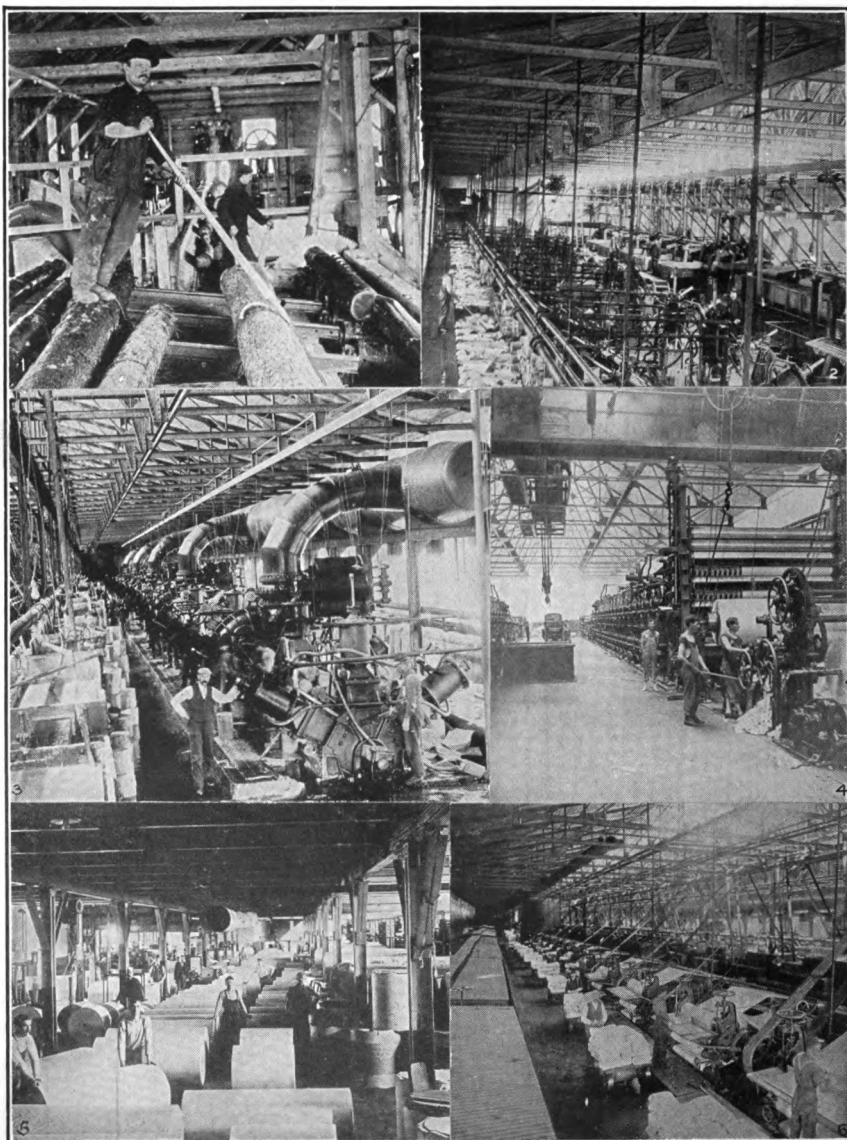
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VARIOUS FORMS OF HEAD-DR



RESS, ANCIENT AND MODERN

PROCESSES OF PAPER MANUFACTURING



1—Sawing the logs.

2—Grinder for reducing wood.

3—Grinding the wood into pulp.

4—Winding the paper on rolls.

5—Paper rolls ready for wrapping.

6—Cutting paper into sheets.

Photos by Brown Bros.

Lincoln, Mount, a peak of the Rocky Mountains, in Colorado, about 8 miles N. E. of Leadville, reaching a height of 14,297 feet. A railroad has been constructed to the silver-mining works at the summit, and here is a meteorological station conducted by Harvard College, another station being placed at a lower level (13,500 feet).

Lincoln, Abraham, an American statesman and 16th President of the United States; born in Hardin Co., Ky., Feb. 12, 1809. He removed with his family in 1816 to Spencer Co., Ind., and for the next 10 years was engaged in hard work of various kinds, having only about a year's schooling at intervals. In 1830 the family removed to Macon Co., Ill., and subsequently he was for some time in charge of a store and mill at New Salem. On the breaking out of the Black Hawk war in 1832 he joined a volunteer company and was elected captain of it, a promotion which gave him more pleasure than any subsequent success in his life. He served three months in the campaign. He next opened a country store which did not succeed; was appointed postmaster of New Salem, and began to study law by borrowing books from a neighboring lawyer. At the same time he turned amateur land surveyor. In 1834 he was elected a member of the Illinois Legislature, to which he was again returned at the three following biennial elections. In 1836 he was licensed to practise law, and in 1837 he removed to Springfield and opened an office in partnership with Maj. John F. Stuart. He soon became distinguished as an advocate in jury trials. He still continued to take a prominent part in party politics, and in 1844 he canvassed the whole of Illinois and part of Indiana making almost daily speeches to large audiences on behalf of Henry Clay. In 1846 he was elected a Representative to Congress. He voted steadily in Congress with the Anti-slavery party, especially opposing the extension of slavery to new territories. In 1849 he was a candidate unsuccessfully for the United States Senate. Till 1856 he continued to pursue his profession taking at the same time an active share in party political movements in Illinois. In the presidential election

of that year he worked strenuously for Fremont, and his own name was mentioned in connection with the vice-presidency.

In 1858 he was nominated by the Republican State Convention as candidate for the United States Senate in opposition to Stephen A. Douglas. The two candidates canvassed the State together, addressing everywhere the same meetings. In this canvass when pressed by his opponent he admitted the right of the Southern States to a fugitive slave law and declared that while determined to keep slavery out of the territories, if any territory demanding admission to the Union should deliberately adopt a slave constitution he saw no alternative but to admit it into the Union. He gained a majority on the popular vote of about 4,000, but Douglas was elected Senator by the Legislature by a majority of eight on joint ballot. This defeat only inspired Lincoln and his supporters with fresh determination and induced them to aim at a higher achievement.

In the Republican National Convention held at Chicago in May, 1860, he was nominated as a candidate for the presidency and after several votes for diminishing the number of candidates, in which he ranked below Seward, he gained a majority over him and was eventually chosen unanimously. The other candidates for the presidency were Breckinridge and Bell and his old opponent Douglas. This division of his opponents proved fatal to the Democrats or Southern party, who for a long period had uniformly carried the presidential elections. Lincoln had a majority of very nearly 500,000 votes over Douglas, while the other two Democratic candidates divided more than 1,250,000 votes between them. The Southern States, exasperated at this defeat, and alarmed at the aggressive anti-slavery policy which many of the leading Republicans had proclaimed their determination to follow in the event of success, refused to acquiesce in Lincoln's election, and on the doctrine of the sovereignty of the States and the voluntary character of the Union, began one after another to announce their secession and to organize the means of resisting the enforcement of the

claims of the Federal government. This movement began during the closing period of the administration of Buchanan, the interval which, according to the Constitution, intervenes between the election of a President and his assumption of office. This circumstance was probably unfortunate for Lincoln, as no position could be less suitable for resisting such movements than that of a retiring President, and when Lincoln took the reins, secession had had time to acquire irresistible impulse. The election of Lincoln took place in November, 1860, and he assumed office on March 4, 1861. In this fatal interval the time of conciliation if it had ever existed passed away. It was the intention of Lincoln to use every means of conciliation consistent with the policy he deemed it essential to the national interest to pursue. On one point, however, his resolution was steadfast, to admit no secession, and before his assumption of office secession was as resolutely determined on, by the other side. On Feb. 4 the Southern Confederacy had been constituted, and on April 14 the first blow in the Civil War was struck by the capture of Fort Sumter by the Confederates.

The events of the next four years in Lincoln's career belong to the history of the United States, where they will be dealt with in more detail. The spirit in which the war was conducted by the President, and his qualifications for guiding the State through the crisis in its affairs, of which his election had been the occasion, were aptly indicated in his advice to his generals when the long succession of Southern victories had raised keen discussion in the North as to the proper policy for pursuing the war. While not indifferent to suggestions as to tactics, the President's final prescription was to "keep pegging away"; and it was his persistence in raising and pouring in fresh troops after every disaster that, in spite of deficient generalship and faulty tactics in their earlier campaigns, finally enabled the Federal government to subdue the secession. Without this, which was Lincoln's share of the work, the military capacity of Grant and Sherman would never have had the opportunity of becoming manifest. Another feature of

President Lincoln's policy which demands notice was displayed in his successive proclamations abolishing slavery. As we have seen, this formed no part of his previous policy as a statesman. It was suggested by the exigencies of war, but a revolution of such social magnitude could never have been undertaken on the dictation of a war policy alone. The toleration of slavery was always in Lincoln's opinion an unhappy necessity; and when the Southern States had by their rebellion forfeited their claim to the protection of their peculiar institution, it was an easy transition from this view to its withdrawal.

The successive stages by which this was effected—the emancipation of the slaves of Confederates, and the offer of compensation for voluntary emancipation, followed by the constitutional amendment and unconditional emancipation without compensation—were only the natural steps by which a change involving consequences of such vast extent is reached. The determination of the Northern States to pursue the war to its conclusion on the original issue led to the reelection of Lincoln as President in 1864. The decisive victory of Grant over Lee on April 2, 1865, speedily followed by the surrender of the latter, had just afforded the prospect of an immediate termination of this long struggle when, on the 14th of the same month, President Lincoln was shot in Ford's Theater, Washington, by John Wilkes Booth (brother of the better-known actor Edwin Booth), and expired on the following day. Booth, who escaped for the time, had no personal enmity toward the President but was a fanatical adherent of the Southern cause. Vice-President Andrew Johnson at once became President. Lincoln received a magnificent funeral, being buried in Oak Ridge Cemetery, near Springfield, Ill., where a fine monument to his memory was dedicated in 1874.

This sudden and unexpected termination of Lincoln's career gave a sort of sanctification to his character and time has not lessened the veneration and affectionate regard which the citizens of the republic entertain for him. He is universally looked upon as the savior of his country and Washington

Lincoln

himself holds no higher place in the hearts of the American people. Simple and even careless in dress and demeanor, shrewd and penetrative in his judgment of men, humorous himself and fond of humor in others, he was a typical, kindly, self-made American citizen.

Lincoln, Benjamin, an American military officer; born in Hingham, Mass., Jan. 24, 1733, and lived as a simple farmer till he was 40 years of age. On the breaking out of the Revolution he began his military career and was rapidly promoted. Appointed chief in command of the S. division of the army, he led the American forces against the British at Charleston and Savannah. He was forced to capitulate when in possession of the former place, by Sir Henry Clinton, in 1780. Notwithstanding the failure of his Southern campaign, the bravery and capacity of Lincoln were left untarnished, and after being imprisoned, he was, on his exchange in 1781, received with honor by Washington and appointed to the command of the central division at the siege of Yorktown. On the surrender of Cornwallis he was deputed to receive the submission of the captured troops. In 1781 he was chosen by Congress Secretary of War, and served in that office for three years, when he returned to his farm; but was called in 1786 and 1787 to command the militia in repressing Shays's insurrection. In 1787 was elected Lieutenant-Governor of Massachusetts. In 1789 was made collector of the port of Boston, which post he held for 20 years. In 1789 was commissioner to treat with the Creek Indians; and in 1793 again, to make peace with the Western tribes. He was the author of various papers, historical, agricultural, etc. He died in Hingham, Mass., May 9, 1810.

Lincoln, Robert Todd, an American diplomatist; born in Springfield, Ill., Aug. 1, 1843; eldest son of Abraham Lincoln; was graduated at Harvard College in 1864; served on the staff of General Grant as assistant adjutant-general; was admitted to the bar in 1867; Secretary of War in 1881-1885; minister to Great Britain in 1889-1893. He was president of the Pullman Palace Car Company. D.

Lincoln Highway, a continuous

Lindsey

improved highway extending from the Atlantic to the Pacific as directly as possible, connecting New York City with San Francisco, crossing ten States, and having a length of about 3,280 miles. It is open to traffic of all kinds without toll charges, and wherever practicable is concreted. It is thus the longest direct roadway in the world. The project was proposed in 1913. Completed in 1923.

Lindbergh, Charles Augustus, American aviator, born in Detroit, Mich., Feb. 2, 1902. Studied engineering a year at the University of Wisconsin, then at a flying school in Lincoln, Neb., and with the Army Flying Service. Flew the air mail service for about a year between St. Louis and Chicago. In May, 1927, he flew his airplane, "Spirit of St. Louis," alone across the Atlantic Ocean, the first to make a solo crossing and to reach the exact destination he had planned when he descended at Le Bourget Field, outside Paris, on May 21, 1927, after a flight of 33 h., 29 m., from New York. He later made "Good Will" flights to Mexico and Central America and toured the United States by airplane in the interest of aviation. He is now technical advisor to a railroad-aviation service, and to the Aeronautical Bureau, Department of Commerce. In May, 1929, he married Anne Morrow, daughter of Dwight Morrow, United States Minister to Mexico.

Lind, Jenny. See GOLDSCHMIDT.

Lind, John, an American diplomat; born in Kanna, Sweden, March 25, 1854; came to the United States in 1868; admitted to the bar in 1876; member of Congress in 1887-93 and 1903-05; governor of Minnesota in 1899-1901; personal representative of President Wilson in Mexico, 1913.

Lindsay, town, port of entry, and capital of Victoria county, Ontario, Canada; on the Scugog river and the Canadian Pacific and Grand Trunk railroads; 70 miles N. E. of Toronto; has considerable manufactures and extensive trade in grain and lumber.

Lindsey, Benjamin Barr, an American jurist; born in Jackson, Tenn., Nov. 25, 1869; admitted to the bar in 1894; became judge of the Arapahoe County Court and the Juvenile Court of Denver in 1901; origi-

nated the leading features of juvenile courts; widely-known authority on juvenile delinquency; chief works: "Problems of the Children" and "The Beast and the Jungle."

Linen, a general name for a cloth of very extensive use, made of flax, and differing from cloths made of hemp only in its fineness. The manufacture of linen was introduced into the United States by the establishment of a large mill in 1834 at Fall river, Mass., and the industry since that time has become largely extended.

Lingard, John, an English historian; born in Winchester, England, Feb. 5, 1771. He died in Hornby, Lancashire, England, July 17, 1851. His works were written from the standpoint of Roman Catholicism.

Lingua-Franca, the corrupt Italian which has been employed, since the period of the Genoese and Venetian supremacy, as the language of commercial intercourse in the Mediterranean, specially the Levant. Any language which serves a similar purpose, as, for instance, Swahili and Haussa in Africa, and the Chinook jargon in the N. W. part of the United States, is called generically a lingua-franca.

Linnean Society, a society founded to carry out those botanical and zoölogical investigations with regard to which Linnæus, in his "Systema Naturæ," had led the way. It was founded in 1788, and incorporated on March 26, 1802. In 1791 it began to publish "Transactions."

Linnean System, the sexual system of botany introduced by Linnæus, which, though unequalled for the aid it affords in finding the name of a flower, yet labors under the fatal defect that it is purely artificial. Previous to his time, Jung, rector of the gymnasium at Hamburg, who died in 1657, had introduced the Latin botanical nomenclature. Tournefort, who died in 1708, had been the first to classify plants into strictly defined genera. It remained for Linnæus to arrange them, and define the several genera and species scientifically. He divided the vegetable kingdom into 24 classes.

Linné, Karl von, commonly called Linnæus, the greatest botanist

of his age; born in Rashult, Sweden, May 13, 1707. He died in Upsala, Jan. 10, 1778.

Linnet, a well-known song-bird, frequenting all Europe S. of 64°, and in Asia extending to Turkestan.

Linotype, a machine, operated by finger keys, which automatically produces and assembles, ready for the press or stereotyping table, type metal bars, each bearing, properly justified, the type characters to print an entire line.

Linseed Oil, the fixed oil expressed from the seed of the flax plant. Linseed oil yields, with alkalies, a very soft soap, and is acted on with facility by oxidizing agents generally.

Lint, the name given to linen cloth or rags when shredded or scraped down so as to form a soft material, suitable for dressing wounds and soaking up discharges. This is now superseded by a cotton cloth specially woven for the purpose, with one side soft and fluffy.

Linton, Sir James Drumgole, an English painter; born in London, Dec. 26, 1840.

Linton, William James, an Anglo-American wood engraver and author; born in London in 1812. He died in 1897.

Lion, a very typical member of the great carnivorous order of mammals, standing as the chief representative of the family Felidæ or cats. The dental arrangement comprises six incisors and two canines in each jaw; the false or pre-molars number six in the upper and four in the lower jaw; and the true molars are two in each jaw. The molars are fewer in number in the Felidæ than in other Carnivora.

The African continent forms the headquarters of the lions, and in Southern Asia—in India, Persia, and Arabia—they are also found. America totally wants evidence of any geological or historical lion—the puma supplying its place has long formed the typical specimen of the tribe. It extends all over the African continent, but exhibits certain variations throughout that large area. Thus the Barbary and Cape lions vary a little in color and size, the former being

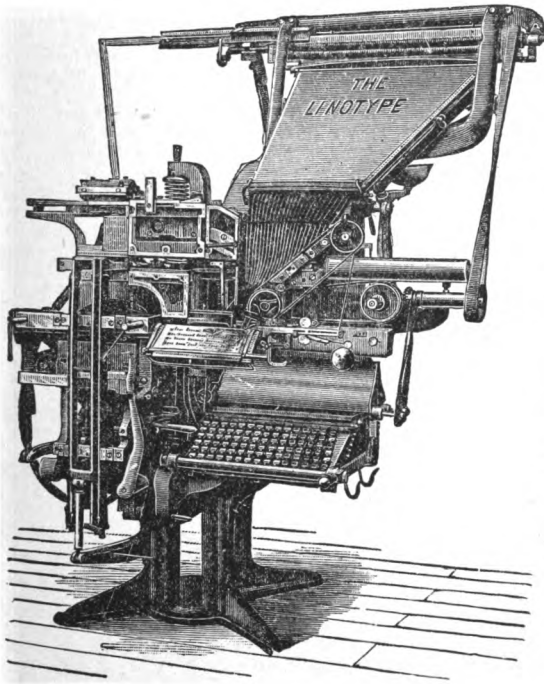
Lipari Islands

generally the larger, and even the Cape or South African forms appear to present variations in color, one being paler in color than the other, and hence these latter forms become divisible into the pale and black lions. The maneless lion of India presents a distinct feature from the other forms in that the males want the characteristic mane of the other varieties. And

about a year, their size at birth being about that of a pug dog. In their young state the whelps may be marked with various markings, brown bands on a tawny body color being most frequently observed. As they grow older, however, the markings disappear and the uniform tawny hue of the adult is reached. The mane of the male does not begin to grow until the

animal has attained the age of three or three and a half years. The adult age is reached in the males at seven and in the females at six years. The probable limit of age of the lion has been differently stated by different writers. Buffon fixed it at 22 years. But a lion which died in the Tower of London in 1760 had lived in captivity above 70 years, and another died in the Tower at the age of 63.

Lipari Islands, known also as the *Æolian Islands*, a volcanic group in the Mediterranean, consisting of half a dozen larger and numerous smaller islands, with an aggregate area of 116 square miles, and situated off the N. coast of Sicily, N. W. of Messina. They rise to 3,170 feet above the level of the sea; many of the smaller islands form part of the rim of a gigantic



LINOTYPE.

among the lions generally the differences on which the formation of distinct species have been founded have a chief reference to the development and form of the mane in the various kinds. The period of gestation in the lions is five months. Only one brood is produced annually and from two to four young are produced at a birth. The mother nourishes the whelps for

crater. The ancient classical poets localized in these islands the abode of the fiery god Vulcan—hence their ancient name, *Vulcaniæ Insulæ*. Lipari is the largest. The next in size are Vulcano, Stromboli, Salina, Filicudi, Alicudi, and Panaria. The principal products of the islands are grapes, figs, olives, wine (Malmsey), borax, pumice stone, and sulphur. The warm

springs are much resorted to, and the climate is delightful. Lipari, the chief town, is a bishop's see and a seaport, and has 4,968 inhabitants. Stromboli (3,022 feet) is almost constantly active; Vulcano (1,017 feet) is so intermittently; the rest are extinct.

Lippe, or Lippe-Detmold, a small Free State of Northern Germany; between Westphalia on the W. and Hanover on the E. The Weser touches it on the N. and the Teuto-burger Wood crosses it on the S.; area, 469 square miles; pop. (1919) 154,318. The present constitution of Lippe dates from 1853; capital, Detmold; other towns, Lemgo and Horn.

Lippi, Fra Filippo, commonly known as Lippo Lippi, a Florentine painter; born in Florence, in 1412. He died in Spoleto, Italy, Oct. 9, 1469.

Lippincott, Joshua Ballinger, an American publisher; born of Quaker parents in Juliustown, N. J., in 1816. He had charge of a bookseller's business in Philadelphia from 1831 to 1836, when he founded the house of J. B. Lippincott & Co., and by 1850 was at the head of the book trade in Philadelphia. He died in Jan. 1886. "Lippincott's Magazine" was established in 1868.

Lippincott, Sarah Jane, (Clarke), pseudonym Grace Greenwood, an American writer; born in Pompey, N. Y., Sept. 23, 1823. She was favorably known as a newspaper correspondent and editor, and the author of charming poems, sketches and stories. Died, April 20, 1904.

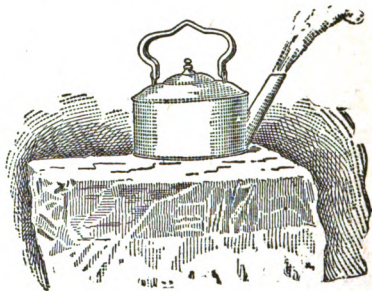
Lippmann, Julie Mathilde, an American writer; born in Brooklyn, N. Y., June 27, 1864.

Lipsius, Richard Adelbert, a German theologian; born in Gera, Feb. 14, 1830. He died in Jena, Aug. 19, 1892.

Lipton, Sir Thomas Johnstone, a British sportsman; born in Glasgow, of Irish parents. He is proprietor of large tea estates in Ceylon; owns a refrigerator car plant in the United States; and is president of a pork packing company in Chicago. He is, however, best known as the owner of the English yachts "Shamrock I," "Shamrock II," and "Shamrock III," with which vessels he un-

successfully competed for the America's Cup in 1899, 1901, and 1903. During Queen Victoria's Jubilee, in 1897, the Princess of Wales issued an appeal for money to provide dinners for the poorest of the poor in London on some one day of the festivities. To this fund Lipton contributed \$100,000. The result of this movement was "The Alexandra Trust," the purpose of which is to provide restaurants all over London where working people may buy wholesome, well-cooked food at cost price. To this object Lipton gave \$500,000 in 1898, and promised more when needed. In consideration of his liberality he was knighted in 1898. The same year he sent a check for \$10,000 for the relief of American soldiers wounded or invalided in the war with Spain, and in 1900 gave the New York Yacht Club \$1,000 for a prize cup for a season's races. He was created a baronet June 25, 1902. In May 1929, issued a challenge for the America's Cup for that autumn.

Liquid Air, air reduced to a liquid form. Liquid air when pure has a bluish tinge, but the liquid form of ordinary air has a somewhat cloudy appearance owing to the presence of solid carbon dioxide and other matters. These can be filtered off in the ordinary way. If some of the clear



BOILING ON BLOCK OF ICE.

liquid be poured in a glass vessel it will boil vigorously, apparently emitting clouds of vapor, but these are due to condensation of water vapor in the neighboring atmosphere. The outside of the vessel will at the same time become covered with hoar frost.

If a kettle containing liquid air be placed on a block of ice, boiling will again take place and the addition of ice to the contents of the kettle will make the boiling proceed more rapidly.

Liriodendron, the tulip tree, whitewood, tulip-bearing lily tree, Virginia poplar or poplar of America.

Lisbon, the capital of Portugal, province of Estremadura, on the Tagus, near its mouth. The city is partly built on the shores of the Tagus and on several small hills, and presents a magnificently picturesque appearance from the river. The harbor, or road, of Lisbon, is one of the finest in the world; and the quays, which extend nearly $2\frac{1}{2}$ miles along the banks, are at once convenient and beautiful. The foreign trade of Lisbon, formerly of considerable importance, has rapidly declined since the emancipation of Brazil. The exports comprise wine, oil, fruit, and salt; imports, woolens, cottons, silks, metals, colonial products, and furs. The manufactures are inconsiderable. Its jewelers and goldsmiths are among the most expert in Europe. The climate is healthful and genial. A revolution here, Oct. 5, 1910, resulted in the overthrow of the kingdom, flight of the royal family, and a republic. Pop. (1925) 529,524.

Liscum, Emerson H., an American military officer; born in Vermont, July 16, 1841; entered the National army in 1860; served through the Civil War; brevetted captain in August, 1864; promoted captain in 1870; lieutenant-colonel in May, 1896. After the Civil War he became famous as an Indian fighter. In 1898 he accompanied the American troops to Cuba; was severely wounded at the battle of San Juan Hill and for gallantry in that action was promoted Brigadier-General of volunteers. He was promoted colonel U. S. A., April 25, 1899, and assigned to duty in the Philippine Islands. When the Boxer troubles in China broke out in 1900, he was ordered with his command to the seat of the uprising, and was killed while leading his men with the allied troops against the Chinese near Tien-tsin, July 13, 1900.

List, Friedrich, a German political economist; born in Reutlingen, Aug. 6, 1789. He emigrated to the United

States in 1825 and settled at Harrisburg, Pa. There he wrote "Outlines of a New System of Political Economy" (1827). He went to Leipsic (1833) as American consul and did not return to America. He died in Kufstein, Nov. 30, 1846.

Lister, Joseph. 1st Baron, an English surgeon; born April 5, 1827; graduated at London University in arts (1847) and medicine (1852). He was Professor of Clinical Surgery, King's College Hospital, London (1877); and was made surgeon extraordinary to the queen. In addition to important observations on the coagulation of the blood, the early stages of inflammation, and other matters, his great work is known as the antiseptic system of surgery. Lister was awarded many foreign honors, and received the medal of the Royal Society in 1880, the prize of the Academy of Paris in 1881. He was made a baronet in 1883 and a peer in 1897. He was one of the surgeons in attendance on King Edward during his illness in 1902. He died Feb. 12, 1912.

Liszt, Franz, a Hungarian pianist and musical composer; born in Raiding, Hungary, Oct. 2, 1811. His real career as a pianist began about 1839, when he made an extended concert tour through Europe, his playing being received in all the great cities with enthusiasm. When his popularity was at its height he settled in Weimar and became director of the court theater. In 1875 he received a government pension and was named director of the Hungarian Academy of Music in Budapest. He gave his assistance to foster the Wagner festivals of music in Bayreuth, and it was while on a visit there on July 31, 1886, that he died. His chief musical compositions are: The "Faust" and "Dante" symphonies, "Hungarian Rhapsodies," "Symphonic Poems," a large number of pianoforte pieces, several masses, and the oratorios of "St. Elizabeth" and "Christus." He also wrote monographs on Chopin and Franz.

Litany, a prayer of a supplicatory nature used in public worship.

Litchfield, Grace Denio, an American novelist; born in New York city, Nov. 19, 1849. She lived in Europe for a number of years, and afterward in Washington, D. C.

Litchi, or **Lee-chee**, one of the most delicious fruits of China, Cochinchina, and the Malay Archipelago. The Chinese preserve the fruit by drying, and in the dried state it is imported.

Liter, or **Litre**, the French standard measure of capacity in the decimal system. It is a cube, each side of which measures 3.937 inches, and it contains 61.028 cubic inches, or 2.113 pints.

Lithia, in chemistry, oxide of lithium. The salts of lithia being solvents for uric-acid calculi, alter the quality of the urine, and prevent the crystallization and deposit of the substances forming gravel and calculi. Muriate lithia waters are waters impregnated with chloride of lithium, as at Baden Baden. They are useful in gout.

Lithium, a monatomic element of the alkali group of metals. It is of comparatively recent discovery, and although occurring generally in minute quantities, is very widely distributed through the mineral kingdom.

Lithography, the art of drawing on and printing from stone, is a comparatively recent invention, the principles on which it is based having been discovered by a young German literary adventurer about the close of the 18th century. It ranks next to printing from type in importance.

Lithotomy, the operation, art, or practice of cutting into the bladder, in order to extract one or more stones or calculi.

Lithotypy, the art or process of stereotyping by pressing the types of a page set up into a soft mold or matrix. The hollows left by the types are then filled with a mixture of gum shellac, fine sand, tar, and linseed oil, heated, which, when cold, becomes as hard as stone and can be printed from.

Litmus, or **Lacmus**, a peculiar coloring matter, procured from lichens. Paper tinged blue by litmus is reddened by the feeblest acids; litmus paper reddened by an acid has its blue color restored by an alkali.

Litrameter, an instrument for ascertaining the specific gravity of liquids, invented by Dr. Hare of Philadelphia.

Little Britain, an English designation of the French province of Bretagne, or Brittany.

Little John, a big stalwart fellow, named John Little (or John Nailor), who encountered Robin Hood and gave him a sound thrashing, after which he was rechristened, and Robin stood godfather. Little John was executed on Arbor Hill, Dublin, according to the legend.

Littlejohn, Abram Newkirk, an American clergyman; born in Montgomery co., N. Y., Dec. 13, 1824. He was graduated at Union College in 1845 and was ordained clergyman of the Protestant Episcopal Church. After holding various posts in his denomination he was made bishop of Long Island in 1869. He died in Williamstown, Mass., Aug. 3, 1901.

Little Rock, city and capital of Pulaski county and of the State of Arkansas; on the Arkansas river and several trunk line railroads; 125 miles S. W. of Memphis, Tenn.; is the commercial metropolis of the State; chiefly engaged in compressing and shipping cotton and manufacturing cotton-seed products, cotton compresses and gins, and elevators; is the see of a Protestant Episcopal and a Roman Catholic bishop; contains the State Capitol, State institutions for the deaf, dumb, and blind, State Penitentiary, Arkansas Univ., Medical Dept., Little Rock University, Philander Smith and Arkansas Baptist colleges, St. John's Diocesan Seminary, and United States Military Reservation and Fort Logan. Population (1930) 81,679.

Littleton, or **Lyttleton**, **Sir Thomas**, an English jurist; born in Frankley, England, in 1402. Littleton's reputation rests on his work on "Tenures." He died in 1481.

Littre, Maximilien Paul Emile, a French philologist; born in Paris, Feb. 1, 1801. He was one of the greatest linguists and scientists of the century, best known for his celebrated "Dictionary of the French Language." In addition to his labors as a philologist he contributed to various scientific and philosophical journals, was active in politics, translated the works of Hippocrates, which admitted him to the Academy of In-

scriptions, and Pliny's "Natural History," and wrote a "History of the French Language," etc. In 1871 he was elected to the French Academy. He died in Paris, June 2, 1881.

Liturgy, the established form of public worship, a form of public devotion, the entire ritual for public worship.

Lin-Kiu Islands, a group of 37 (mostly small) islands which form an integral part of the empire of Japan, extending at irregular intervals S. W. from Kyushu in Japan toward Formosa, and constituting the Japanese prefecture of Okinawa; length 80 miles, breadth 12 to 15 miles; area, 941 square miles; pop. (Est.) 750,000. The only two islands of considerable size are Oshima and Okinawa. The people closely resemble the Japanese and are evidently of the same descent. China has a claim on them, based on an earlier conquest, but has made no effort to enforce it, and they remain in the undisturbed possession of Japan.

Liver, the glandular structure, which, in animal forms, secretes the bile. In man the liver forms the largest gland of the body, weighing from 50 to 60 ounces.

The diseases to which the liver and gall bladder are subject are quite varied. Chief among its abnormal structural conditions may be mentioned that of cirrhosis, in which the fibrous tissue of the organ becomes greatly enlarged and hypertrophied, to the destruction of the cells and impairment of its functions; and also that of fatty degeneration, in which the oil globules of the liver cells become greatly increased in number, the tissue of the organ becoming very loose and friable. Both of these conditions are intimately associated with the abuse of alcoholic liquors. From its large size and prominence, as well as from the delicacy of the interlobular areolar or fibrous tissue, the liver is very liable to be ruptured by external violence, or even by the forcible action of the abdominal muscles. In a diseased state—especially when fatty or cirrhotic—the liver is more readily ruptured than when in a normal and healthy condition.

Livermore, Mary Ashton (Rice), an American reformer and lecturer;

born in Boston, Mass., Dec. 19, 1820. In 1862 she was appointed agent of the Northwestern branch of the United States Sanitary Commission. After the war she was conspicuous in her efforts to promote the woman suffrage and temperance movements. Among her popular lectures are: "What Shall We Do with Our Daughters?" "Women of the War," etc. She died May 23, 1905.

Liverpool, an episcopal city, parliamentary, municipal, and county borough, and seaport of England; in the county of Lancaster; on the right bank of the Mersey, about 4 miles from its confluence with the Irish Sea, 185 miles N. W. from London. It stands partly on flat ground along the margin of the river, but chiefly on the slopes of a series of moderate eminences whose summits are within the limits of the borough, and the highest of which is about 230 feet above the level of the quay wall of the river. It is irregularly laid out but, generally speaking, is well built, and it contains some magnificent public buildings.

Next to London, which it exceeds in the value of its exports—Liverpool is the chief seaport of the United Kingdom. It is the main outlet for the manufactures of Lancashire, West Yorkshire, and Staffordshire, and carries on an immense export and import trade, especially with the United States. It possesses a magnificent series of docks and basins, and other requisites of a great seaport. The works have been designed and constructed with consummate engineering skill. They include docks specially adapted to distinct branches of trade, for example, corn, timber, American steamships, etc.

On the margins of some of the docks are gigantic warehouses, among which may be mentioned the Albert and Wapping, used for general produce; the Waterloo grain warehouses, entirely devoted to the storage of food-stuffs, and furnished with special lifting and conveying machinery; the Stanley warehouses, formerly used for general goods, but now used exclusively for the storage of tobacco, and recently supplemented by one of the most gigantic warehouses probably in the world, 730 feet long, 165 feet wide,

and about 120 feet high, which has in all 14 floors, having an aggregate area of 36 acres. This also is for the storage of tobacco, the total capacity in the three blocks of warehouses now available being about 100,000 hhd., or 50,000 tons. Adjoining these warehouses is another block especially constructed for the storage of wool. The quays are abundantly furnished with railway lines and every other mechanical appliance for expediting the transport of goods and economizing labor. An overhead electric railway running along the docks for about 7 miles was opened in 1893. There are numerous graving docks for the repair of iron and wooden vessels, and gridirons for their casual overhaul. The most modern of the graving docks, that at Canada Dock, is among the largest in the world, its length being 925½ feet, and width of entrance 94 feet.

One of the principal river features of Liverpool is the floating landing-stage moored off the Prince's and George's Docks, in the heart of the town. This magnificent structure, supported on iron pontoons, rising and falling with the tide and connected with the river wall by bridges of easy gradient, is an effective engineering device to meet the tidal conditions obtaining on the Mersey, where spring tides present a difference in level between high and low water of over 30 feet, and even neap tides have a range of 13 feet.

Liverpool is, next to London, the largest town in England. A vast number of its inhabitants are unskilled laborers, who resort to it for precarious and fluctuating labor connected with the port. It is among the most densely populated of the large towns of the United Kingdom, and its annual death-rate (about 24 per 1,000) is correspondingly high.

Great as Liverpool now is, it is of but comparatively recent growth. The conquest of Ireland gave the first stimulus to the commerce of Liverpool. Toward the latter part of the 16th century the town declined, and in 1571 it was mentioned in a petition to Queen Elizabeth as "her majesty's poor decayed town of Liverpool." In her reign, however, a mole was formed for laying up ships in the winter, and a quay was constructed.

In 1709 a wet dock was constructed, not only the first in Liverpool, but also in the kingdom. From this event may be dated the rapid extension of its commerce and population; its progress being exceedingly rapid during the 19th century. In 1880 Liverpool was made the see of a bishop, and in that year a charter was granted constituting it a city. The population, which in 1801 was only 77,653, was in 1921, in the city and county borough, 803,118.

Liverpool, Robert Banks Jenkinson, Earl of, an English politician; born June 7, 1770. He entered Parliament under Pitt's auspices in 1790, and on his father being created Earl of Liverpool in 1796 he became Lord Hawkesbury. On the assassination of Percival in 1812 he became premier, and held that position till 1827. His opposition to all liberal measures, the severity with which he repressed internal disturbances, and his prosecution of Queen Caroline rendered him extremely unpopular. He died in London, England, Dec. 4, 1828.

Livery, a word derived from the custom which prevailed under the Merovingian and Carolingian kings of "delivering" splendid habits to the members of their households on great festivals. In the days of chivalry the wearing of livery was not as now confined to domestic servants. In America the wearing of livery by servants is regarded as a foreign custom, and confined to a comparatively small number of wealthy families, the wearers being usually, if not invariably, foreigners.

Livingston, Edward, an American statesman; born in Clermont, Columbia Co., N. Y., May 26, 1764. He was a brother of Robert Livingston, was educated at Princeton College, and was called to the bar in 1785. In 1794 he was elected member of Congress, and distinguished himself by his opposition to the Alien and Sedition Bills. He belonged to the party then called Republican, and since Democratic. In 1801 he retired from Congress and accepted the two offices of mayor of New York and attorney-general for the district of New York. In consequence of pecuniary difficulties in the latter office he quitted New York in 1804, and having given up his

property to the State settled at New Orleans. He soon took a high place at the bar, served under General Jackson against the English in 1814; and in 1820 became a member of the legislature of Louisiana, and was employed to revise the municipal law. His next task was to draw up a new code of criminal law for the State, the existing laws being a confused mass of French, Spanish, and English. On this code his fame rests. In 1829 he became Senator of the United States, Secretary of State under President Jackson, and in 1833 ambassador to France; when he succeeded in recovering compensation for injuries to American commerce during the empire. During his residence in Paris he was elected Foreign Associate of the Academy of Sciences. He died in Rhinebeck, N. Y., May 23, 1836.

Livingston, Philip, an American statesman; born in Albany, N. Y., Jan. 15, 1716. He was graduated at Yale in 1737. He was a member of the Continental Congress and a signer of the Declaration of Independence. He died in York, Pa., June 12, 1778.

Livingston, Robert, an American statesman; born in New York, Nov. 27, 1746; in which city he practised the law with great success. He was one of the committee to prepare the Declaration of Independence; was appointed Secretary of Foreign Affairs in 1780; and throughout the War of the Revolution signalized himself by his zeal and efficiency in the cause. He was afterward chancellor of the State of New York; and, in 1801 was appointed by Jefferson minister plenipotentiary to France, where, during a residence of several years, he was treated with marked attention by Napoleon, who, on his quitting Paris, presented him a splendid snuff box with a miniature likeness of himself, painted by Isabey; died Feb. 26, 1813.

Livingston, William, an American statesman; brother of Philip; born in Albany, N. Y., Nov. 30, 1723. He was a member of the convention which framed the Constitution of the United States and from 1775 till his death was Governor of New Jersey. He died in Elizabethtown, N. J., July 25, 1790.

Livingstone, David, one of the most famous African explorers; born in Blantyre, Lanarkshire, Scotland,

March 19, 1813. At the age of 10 he entered the cotton factory as a "piecer." While in this situation, though working from six in the morning till eight at night, he found time to learn Latin, and by the age of 16 he was well acquainted with classical writers. As he grew up to manhood he read extensively, especially scientific works and books of travel, and his home training being essentially a religious one the idea sprang up within him of becoming a pioneer of Christianity in China. With this end in view he resolved on obtaining, among other qualifications, a good medical education. In November, 1840, he was admitted a licentiate of the Faculty of Physicians and Surgeons of Glasgow.

Having joined the London Missionary Society he made preparations for starting as a medical missionary to China; but as the opium war was raging in that country it was deemed better under the circumstances that he should go to South Africa, where the venerable Robert Moffat had opened an inviting field for missionary labor. He embarked for Africa in 1840, and after a three months' voyage reached Cape Town. His first station was at Kuruman, in the Bechuana territory, 700 miles from the Cape, at which place and in Mabolze he remained several years, making himself acquainted with the habits, laws, and language of the natives. About this time he married the daughter of Mr. Moffat, who had founded the station, and shortly afterward moved further N. to Kolobeng.

Here he heard from the natives of a great lake on the N. of the Kalahari desert, and on June 1, 1849, accompanied by Messrs. Oswell and Murray, who had come from India on a hunting expedition, he started for the purpose of discovering it. After a toilsome journey of 300 miles they reached Lake Ngami (Aug. 1), never till then beheld by European eyes. In the following year he made a second journey, along with his wife and children, to the same region, with the intention of finding a new field for missionary labor and a more favorable site for a station. The whole party, however, were stricken down by fever, and compelled at last to return to Kolobeng.

In 1851 he started N. for the third time, in company with Mr. Oswell,

and finally came on the Zambesi, the largest river in South Africa, flowing E. from the center of the continent. On his return to Kolobeng he wrote to the London Missionary Society proposing to devote several years to the exploration of this region, and requesting their consent and coöperation. He received not only the necessary sanction but also means for carrying out his enterprise. He set out on Jan. 5, 1853, and on May 23 reached Linyanti after great difficulty, owing to the floods. The chief Sekeletu and the whole population of the town, numbering between 6,000 and 7,000, welcomed him with great enthusiasm and kindness. From the Makololo capital he first made a voyage to the Zambesi, and returning thence to Linyanti he set out on Nov. 11, accompanied by 27 natives of the Makololo tribe, on a journey of exploration to the W. part of the continent. Thence, with much difficulty, caused by repeated fevers, famine, and frequent danger from hostile natives, they proceeded till their arrival at St. Paul de Loanda, the capital of Angola, on the W. coast of Africa, in August, 1854.

The country they traversed is of exuberant fertility intersected with innumerable rivers, densely wooded, and full of mineral wealth. He remained at this place to recruit his shattered health until Sept. 20, when he set out on his return journey to Linyanti, which was reached in about a twelvemonth. Starting on Nov. 3, 1855, from that place again, accompanied by several natives, he struck boldly down the Leeambye on his way to the E. coast. In May, 1856, he reached Quilimane on the E. coast, where the N. mouth of the Zambesi opens into the Indian Ocean, having thus accomplished in four years the unparalleled feat of crossing the continent of Africa in these latitudes from sea to sea. After this stupendous journey Livingstone returned (Dec. 12, 1856) to England, whither the fame of his discoveries had preceded him, and he was received by his countrymen with great enthusiasm. Pressed to give to the world a record of his travels he at first refused, but yielding at last to repeated demands he published a bulky volume entitled "Missionary Travels and Researches in South Africa" (London, 1857). In March, 1858, he set sail for Quilimane,

having been appointed British consul at that place, and furnished by the government with means to pursue his explorations into the interior. The first of these expeditions, in which he was accompanied by his brother Charles, Dr. Kirk, and others, added the accurate knowledge of Lakes Nyassa and Shirwa to the map, besides collaterally enriching natural history and botanical collections by the labors of his colleagues. In this journey he had the misfortune to lose his brave and noble-minded wife, who died April 27, 1862, at Shupanga creek, on the Shire river. After having completed in several other expeditions the survey of the Zambesi river system he returned to England in 1864.

In the following year he again set out for the purpose of making further explorations. One of the principal objects he had this time in view was to set at rest, if possible, the question of the sources of the Nile, left unanswered by the researches of Burton, Speke, Grant, and Baker. Landing at the mouth of the Rovuma, he pushed up the valley, striking direct for Lake Nyassa. Long before reaching the N. extremity of the lake, however, his native followers deserted him, and returned to the coast with an account of the intrepid traveler's death at the hands of a hostile tribe. Dr. Kirk at Zanzibar, and Sir Richard Murchison in England refused to believe the tale, suspecting, rightly, that it was got up by his followers to account for their return. An expedition was sent out at the expense of the government, headed by Mr. Young, the principal result of which went to prove that Livingstone was not killed at the place named by his men, and that he had advanced in safety a five days' journey beyond. This intelligence was confirmed shortly afterward by the arrival of letters from Livingstone himself dated four months later than the time of his supposed death. For about three years after this all communication between the explorer and his friends was cut off, owing to the unsettled state of the country. A second expedition was fitted out from England under the command of Lieutenants Dawson and Henn, accompanied by W. Oswald Livingstone, a son of the great traveler. They arrived at Zanzibar in the early part of 1872, and landed on the neigh-

boring coast at Bagamoyo. But here they were met on May 7 by Henry M. Stanley, the special correspondent of the New York "Herald," who had left the object of their search in good health at Unyanyembe, about 50 days' march from the coast. He had found Dr. Livingstone on Nov. 3, 1871, at Ujiji. They had lived together during the winter exploring the N. coasts of Lake Tanganyika, and Livingstone had accompanied the intrepid American as far as Unyanyembe, half way between the lake and the sea coast. They separated in March, 1872, at which time it was Livingstone's intention to return to Ujiji, and thence to cross over or go around the S. end of Lake Tanganyika, to finish his explorations of the more W. chain of lakes and rivers which he had discovered flowing N. from the Chambeze and Lake Bangweolo. Fully equipped with stores from Dr. Kirk and the relief expedition he set out in the summer to complete his explorations of the Lualaba river. After rounding Tanganyika and visiting Lake Bangweolo he pushed on for Katanga; but stricken down with dysentery, after much painful traveling in the attempt to reach Ujiji, he bade his followers build him a hut to die in at Ilala, near Lake Bangweolo, where he expired May 1, 1873. His body was disemboweled and filled with salt, and carried by his faithful attendants to the coast, whence it was conveyed to England, and solemnly deposited in Westminster Abbey, April 18, 1874.

Livius Andronicus, the father of Roman dramatic and epic poetry, was a Greek by birth, probably a native of Tarentum, and was carried a slave to Rome in 272 B. C., but afterward liberated by his master. He translated the "Odyssey" into Latin Saturnian verse, and wrote tragedies, comedies, and hymns after Greek models.

Livy (Titus Livius Patavinus), a Roman historian of the Augustan age; born in Patavium (now Padua), Italy, 59 B. C., according to Varro, or in 61 according to Cato. After passing the early portion of his life in his native town, he appears to have gone to Rome during the reign of Augustus, where his literary talents soon obtained for him the favor and patronage of the emperor. Having spent the greater

part of his life in the metropolis, he returned in old age to the town of his birth, and there died A. D. 18, in the 77th year of his age.

Livy has erected for himself an enduring monument in his "History of Rome." This great work, which he modestly designated "Annales" (Annals), contained the history of the Roman state from the earliest period till the death of Drusus 9 B. C., and originally consisted of 142 books. Only 35 of these have descended to us; of the others, with the exception of two, we possess "Epitomes," or short summaries, but the books themselves have been entirely lost.

Livre, an old French money of account, now superseded by the franc, to which it was about equal in value.

Lizard, the popular name of numerous reptiles having usually two pairs of limbs and an elongated body terminating in a tail. The lizards number more than a thousand species, accommodating themselves to all conditions except cold, and increasing in



LIZARD.

size and number in tropical regions. Some lizards are vegetable feeders, but for the most part they are carnivorous and live upon small birds, insects, etc. The eggs are deposited and left to be hatched without care from the parents. The chief families of lizards are the skinks; the geckos; the iguanas; and the chameleons. Poison glands are wanting in the lizards; the only exception being the *Heloderma* of Arizona and Mexico, which is capable of inflicting a poisonous bite by means of poison glands connected with grooved teeth.

Llama, or **Lama**, an even-toed ungulate of the family Camelidae; habitat the S. parts of Peru. It is usually

white, sometimes spotted with brown or black and sometimes entirely black. In size it is smaller, and in general form lighter than the camels, standing about three feet at the shoulder; no dorsal hump; feet narrow, toes widely separated, each with a distinct pad; hairy covering long and woolly. In the early days of Peruvian discovery the llama was the only beast of burden employed in the country. Its load rarely exceeds 120 pounds, but its great value consists in its being able to traverse mountainous paths along which less sure-footed animals would be unable to pass. Its usual daily journey averages 12 miles. The llamas are completely domesticated.

Llanos, vast plains in the N. portion of South America, in some parts barren and sandy, in others covered with luxuriant grass and stocked with innumerable herds of cattle. Over great portions, however, there is a heavy growth of timber. The inhabitants resemble the Gauchos farther S.

Lloyd, Henry Demarest, an American economist; born in New York, May 1, 1847. He received his education at Columbia College, and shortly after graduating joined the editorial staff of the Chicago "Tribune." His chief work is the notable book "Wealth Against Commonwealth." He died Sept. 28, 1903.

Lloyd-George, David, an English statesman; born in Manchester, Jan. 17, 1863; qualified as a solicitor on attaining his majority; was elected to Parliament from Carnarvon in 1890; distinguished himself as a champion of Welsh interests and as a spokesman for a broad Liberalism; became President of the Board of Trade in 1905; Chancellor of the Exchequer, in the Asquith cabinet, in 1908; and provided for drastic taxing reforms after the outbreak of the World War, he was appointed Minister of Munitions (May, 1915); on Dec. 7, 1916, succeeded Asquith as Prime Minister with almost absolute powers. Continued in office until 1922. See APPENDIX.

Lloyd's, a name given to the place of general insurance business. This institution, now known simply as Lloyds, is devoted entirely to marine insurance and to such business as is subsidiary thereto, as the classification and registration of vessels, etc.

Loadstone, an ore of iron, consisting of the protoxide and peroxide in a state of combination, and frequently called the magnetic oxide of iron. It was known to the ancients, and they were acquainted with the singular property which it has of attracting iron.

Loam, alluvial soil, consisting of sand and clay soil in considerable quantity. If one or the other largely predominates, the soil ceases to be loam.

Loan, anything lent or given to another on condition of return or payment. The acknowledgment of a loan of money may be made by giving a bond, a promissory note, or an I O U, the last of which requires no stamp.

Loan and Trust Company, a chartered institution, in the United States, which has the authority to execute trusts, to lend money on security at legal rates of interest, and to issue obligations for money or other property on deposit with it. These institutions are not allowed to issue bills to circulate as money, or to loan money to their officers, and are not required to keep lawful money reserves.

Lobbyists, a term applied to men who make a business of corruptly influencing legislators, by means of money paid to the members, or by any other method that is considered feasible. Many women engage in this work as well as men. The term lobby, which literally means the ante-rooms of legislative halls, has come to be applied to these people who frequent them, and they are sometimes styled the Third House.

Lobelia, a flower; many of the species are very beautiful. The flowering herb Indian tobacco, indigenous to the United States, is used in medicine. The medicinal preparations of it are two—the tincture and the ethereal tincture of lobelia.

Loblolly Bay, an elegant evergreen shrub or small tree, from the S. States of America. Its bark is sometimes used in tanning.

Lobos Islands, two small groups of rocky islands, about 12 miles off the coast of Peru, famous for the great quantity of guano which they produced.

Lobster, a well known crustacean, already alluded to under the head of *Crawfish*. It belongs to the highest order of the Crustacea, distinguished by the possession of five pairs of walking legs; and is included in the "Long-tailed" decapods, which are characterized by the elongated nature of the abdomen. In the lobsters the appendage at the base of the outer antennæ or feelers is of smaller size, and the anterior pair of legs are always much larger than the others. The first, second, and third pairs of legs are provided with "chela," or nipping claws, the fourth and fifth pairs simply terminating in single and pointed extremities. The inner edges of the large claws are provided with blunt tubercles, while the edges of the other claws have little serrations or teeth. The front of the head shield bears a serrated, pointed projection—the "rostrum." The greater antennæ are very long and single, the shorter pair are bifid. The common lobster is of a bluish black color, variegated with pale or yellowish spots and patches; the remarkable chemical change which the color undergoes on boiling being well known.

Lobsters are fished by pots or "creels," generally of wood and net, or made of wickerwork. The bait is garbage of various kinds, but fresh fish, cuttlefishes, etc., are frequently used to entice the lobsters to enter the traps. From mid-October to the end of April is the best season for lobsters, when they are in prime condition and most in demand. The lobsters change their shell or crust annually. The increase of body in these and other crustaceans takes place at the period of molting; the hard outer shell preventing growth at other periods. They move freely about by walking, while by bending the tail sharply under the body, they propel themselves backward in the water by aid of the broad tail-piece or fin with which they are provided. The lobsters are very prolific. The *Paliaurus*, or spiny lobster, sometimes known as the sea crawfish, is so named from the numerous spines with which the body is covered. The body is colored dark red, with lighter patches, and sometimes attains a length of three feet and a weight of 15 pounds. The outer

or larger antennæ are exceedingly long; the smaller pair being bifid at their extremities only. The front pair of legs are small, and rarely provided with nipping claws. It inhabits deep water.

Lochleven, a beautiful oval lake of Kinross-shire, Scotland, 23 miles N. N. W. of Edinburgh. It has an area of 3,406 acres, drainage operations having reduced its size by one-fourth in 1826-1836. Of seven islands, the largest are sandy, treeless *St. Serf's Inch*, an early seat of the *Culdees*, and *Castle Island*, with the 14th-century keep of a castle which in 1567-1568 was for 10 months the prison of *Mary Queen of Scots*.

Lock, an inclosure in a canal, with gates at each end, used in raising or lowering boats as they pass from one level to another. When a vessel is descending, water is let into the lock till it is on a level with the higher water, and thus permits the vessel to enter; the upper gates of the lock are then closed, and by the lower gates being gradually opened, the water in the lock falls to the level of the lower water, and the vessel passes out. In ascending the operation is reversed, that is, the vessel enters the lock, the lower gates are closed, and water is admitted by the upper gates, which, as it fills the lock, raises the vessel to the height of the higher water.

Locke, David Ross, pseudonym *Petroleum V. Nasby*, an American humorist; born in Vestal, Broome co., N. Y., Sept. 20, 1833. After being connected with several newspapers he took charge of the *Toledo "Blade,"* in 1865, and at once became popular as a humorous writer and later as a lecturer. He began his "Nasby" letters in 1860 and continued them throughout the war. They were very amusing and were mainly hits at political characters and situations, written in a peculiar dialect. Abraham Lincoln read Locke's writings with much pleasure. He died in Toledo, O., Feb. 15, 1888.

Locke, John, an English philosopher; born in Wrington, in Somersetshire in 1632. He was educated at Westminster and Christchurch College, Oxford. When in 1672, Lord Shaftesbury was appointed lord chancellor, he made Locke secretary of

presentations, and at a later period, secretary to the Board of Trade. As a philosopher, Locke stands at the head of what is called the Sensational School in England. His greatest work is the "Essay on the Human Understanding," in which he endeavors to show that all our ideas are derived from experience, that is, through the senses, and reflection on what they reveal to us. He is best known to Americans as the author of a peculiar constitution for North Carolina, which included orders of nobility, etc. It was never put in operation. He died in 1704.

Locke, William, J., English author, born in Barbados, March 20, 1863, educated at Trinidad, in London University and at King's College, Cambridge. Held several tutorial positions and, after studying architecture, was secretary of the Royal Institute of British Architects. Author of more than thirty novels, among the best known being "The Beloved Vagabond," "The Morals of Marcus Ordeyne," "Stella Maris." Died May 15, 1930.

Lockout, the discharge and keeping out of employment of artisans and laborers by their employers. It is a retaliatory measure to resist the demands for shorter hours, more pay, etc., made by workmen.

Lockport, city and capital of Niagara county, N. Y.; on the Erie canal and the Erie and other railroads; 25 miles N. E. of Buffalo; derives its name from 10 massive locks of the canal, which here has a descent of 66 feet; chief industries, manufacturing, building-stone quarrying, fruit-growing, and general farming. Pop. (1930) 23,160.

Lockwood, Belva Ann Bennett (Mrs.), an American lawyer; born in Royalton, N. Y., Oct. 24, 1830; was graduated at Genesee College, Lima, N. Y., in 1857. She was admitted to the bar in 1879; and was connected with numerous important law cases, including several before the United States Supreme Court; was nominee of the Equal Rights Party for President of the United States in 1884 and 1888. In 1900 she had a bill before Congress to prevent encroachment upon the Cherokee Indians of North Carolina. She was elected president of the Women's

National Press Association, Jan. 18, 1901. She died May 19, 1917.

Lockwood, James Booth, an American military officer; born in Annapolis, Md., Oct. 9, 1852; volunteered to accompany the Lady Franklin Bay expedition to the Arctic regions and was made second in command. His fame rests upon the discovery of Lockwood Island, in lat. 83° 24' N., the farthest N. point of land or sea that had been reached up to that time. He died at Cape Sabine, April 9, 1884.

Lockyer, Joseph Norman, an English astronomer; born in Rugby, England, May 17, 1836. He in 1866 discovered a new method of observing the sun; and in 1874 he gained the Rumford medal of the Royal Society and was appointed editor of "Nature." He was knighted in 1897. Died, 1920.

Locofoco, a lucifer match, a self-lighting match. A name formerly given to a faction of the Democratic party, because at a grand meeting in Tammany Hall, New York, in 1834, when the chairman left his seat, and the lights were suddenly extinguished in the hope of breaking up the turbulent assembly, those who were in favor of extreme measures instantly drew from their pockets their locofocos, relighted the lights, and continued the meeting to the accomplishment of their object.

Locomotive, Development of the. Statistics compiled for the year 1901 showed the total output of the eight principal locomotive building plants in the United States as 3,384. This was the largest output on record and 7.3 per cent. more than in 1900. For the year ending June 1, 1902, the record of locomotive building exceeded even the year 1901. During the year ending June 1, 1902, about 30 per cent. of the total of passenger and freight engines built by the largest locomotive manufacturing companies were of the compound type. The heaviest engine built during the year weighed, not including the tender, 267,800 pounds; 237,800 pounds of which were on the driving wheels. This was a locomotive of the decapod type.

The preceding five years showed a wonderful development in the main features of locomotive design and construction. No longer ago than 1897 passenger engines with 2,200 square

feet of heating surface and freight engines with 2,900 square feet were spoken of as marvels of progress, and comment was made at that time on the fact that boiler pressures were being raised to above 150 pounds and might possibly reach 180 pounds on simple locomotives. The 1902 engines constructed for passenger and freight service had over 3,500 square feet of heating surface, while special freight engines had 5,390 square feet. Most of the simple engines constructed carried 200 pounds pressure.

Two of the largest type of locomotives ever built were completed in 1910 for the Duluth, Missabe & Northern railroad. Each of the locomotives is really two engines in one, weighs 600,000 pounds, and will pull 70 empty ore cars up the steep grade, whereas the best that locomotives then in service could do was 28 cars. In 1923 there were produced in the United States 3,422 locomotives of various types, valued at \$177,891,220. Total in service, 68,990.

Locomotor Ataxy, a disease of the nervous system, marked by imperfect control of the limbs. The patient requires to guide his feet and legs by means of his sight, and even then the feet are jerked out and brought down in a violent way. The causes of this disease are obscure, its progress usually extends over a number of years, and recovery is rare.

Locust, the name of several insects of the order Orthoptera, of which the genus *Locusta* is a type, allied to the grasshoppers and crickets. Their hind-legs are large and powerful, which gives them a great power of leaping. Their mandibles and maxillæ are strong, sharp, and jagged, their food consists of the leaves and green stalks of plants. There are two specially destructive species, one of which, *Caloptenus femurrubrum*, is found in Northern New England and Canada; and the other, *Caloptenus spretus*, breeds abundantly west of the Mississippi.

Locust Tree, or **Acacia**, the locust tree of the United States, also called the false acacia, or thorn acacia, and on the continent of Europe and in Great Britain very generally the acacia is a valuable and extremely beautiful tree. The wood, known as io-

cust wood, is useful for all purposes in which great strength, and especially toughness, is required.

Lode, the technical name for a metalliferous or ore-producing vein. These differ in their length, width and depth, and also in the richness of mineral they contain.

Lodestar, or **Loadstar** ("leading star") a name given to the polar star.

Lodge, Henry Cabot, an American statesman and author; born in Boston, Mass., May 12, 1850; was lecturer on history at Harvard College in 1876-1879, and editor of the "North American Review" in 1873-1876. He then entered political life and in 1893, 1899, 1905, 1911, and 1917 was elected U. S. Senator from Massachusetts. He is the author of a "Life of Daniel Webster," and of lives of Alexander Hamilton and George Washington; also of "Boston" in the series of "Historic Towns;" of a "Short History of the English Colonies in America;" etc. Died, 1924.

Lodge, Sir Oliver Joseph, an English physicist; born in Staffordshire, June 12, 1851; was Professor of Physics at University College, Liverpool, in 1881-1900; president of the Physical Society of London in 1899-1900, and of the Society for Psychical Research in 1901-1904.

Lodz, a town of Republic of Poland, 75 miles S. W. of Warsaw; noted for its main street, seven miles long, and for its manufactures of cottons, woollens, chemicals, beer, machinery, and silk; population largely made up of German capitalists and artisans. Since the beginning of the 19th century it has grown from an insignificant place to be one of the most populous cities in the Russian Empire. In the World War it was occupied by German forces, Dec. 6, 1914. Pop. (1923) 451,813.

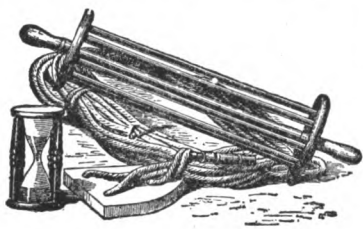
Loeb, William, Jr., an American executive; born in Albany, N. Y., Oct. 9, 1866; became a stenographer; private secretary to Theodore Roosevelt while Governor, Vice-President, and President; appointed Collector of the Port of New York in 1909.

Loewe, Johann Carl Gottfried, a German composer; born Nov. 30, 1796; is said to have done for the bal-

lad what Wagner did for opera. He died April 20, 1869.

Lofoden, or Lofoten, a chain of islands on the N. W. coast of Norway, stretching S. W. and N. E. for 150 miles. Total area, 2,247 square miles. All of them are rugged and mountainous. The waters on the E. side of these islands are visited in January to March every year by vast shoals of codfish, which attract a large fleet of fishermen. The average number of boats is 5,000 to 6,000, manned by 28,000 to 30,000 men; and the produce of the fishery is about 30,000,000 fish, 24,000 barrels of cod-liver oil, and 25,000 to 26,000 barrels of roe. Besides fishing, sheep-farming is also carried on, as, owing to the influence of the Gulf Stream, the winters are mild and grass grows abundantly. The permanent population number about 40,000.

Log, an apparatus for ascertaining the rate of a ship's motion. In a steam engine, a tabulated summary of the performance of the engines and



LOG AND REEL.

boilers, and of the consumption of coals, tallow, oil, and other engineers' stores on board a steam vessel.

Logan, George, an American statesman; born in Stenton, near Philadelphia, Pa., Sept. 9, 1753. He went to Paris in 1798 to try to avert war with France, and being a private citizen his act was denounced in Congress and led to the passage of the Logan bill. He was elected to the United States Senate in 1801. He died in Stenton, April 9, 1821.

Logan, James, an American colonial official; born in Lurgan, Ireland, Oct. 20, 1674. In 1699 he accompanied William Penn to Pennsylvania

as secretary. He afterward was chief-justice and president of the council, discharging in the latter capacity the duties of governor of the province for two years after the demise of Governor Gordon in 1736. He bequeathed his collection of 2,000 books to the Philadelphia library, and died near Germantown, Pa., Oct. 31, 1751.

Logan, John, a name given Tah-gah-jute, an American Indian chief; born about 1725. He was very friendly to the whites, among whom he lived for many years near Reedsville, Pa. In 1770 he removed to Ohio, where in 1774 his family were massacred by a party of whites. He retaliated by instituting a war against the white settlers. While furious with drink, he was killed by a nephew, in 1780.

Logan, John Alexander, an American soldier and statesman; born in Jackson co., Ill., Feb. 9, 1826. The Mexican War broke out when Logan was 20, and he at once enlisted and was made a lieutenant. He enlisted on the outbreak of the Civil War, and rose to the rank of Major-General, being distinguished throughout the struggle for valor and patriotism; elected United States Senator from Illinois 1871-1877-1883-1889; was nominated for the vice-presidency on the ticket headed by James G. Blaine, 1884, but was defeated. He died in Washington, D. C., Dec. 26, 1886.

Logan, Olive, an American miscellaneous writer; born in Elmira, N. Y., April 16, 1841. She began her career as an actress in Philadelphia, 1854; retired from the stage in 1868; afterward lectured on social topics and contributed to newspapers and magazines. She died April 27, 1909.

Logansport, city and capital of Cass county, Ind.; at junction of the Wabash and El rivers and on several railroads; 75 miles N. W. of Indianapolis; is an important trade center for a large farming area; manufactures a variety of wood-work, flour, paper, pumps, linseed oil, caskets, and farm implements; and contains railroad shops, the Northern Indiana Hospital for the Insane, and several colleges. Pop. (1930) 18,508.

Logarithm, a mechanical term. The logarithm of a number is the ex-

ponent of the power to which it is necessary to raise a fixed number, called the base, to produce the given number.

Loggia, an Italian word signifying an open arcade enclosing a passage or open apartment. It is a favorite class of building in Italy and other warm countries.

Logic, a development and modification of the art of reasoning, which Aristotle, utilizing the labors of his predecessors, molded into something like consistent shape. Inductive logic is the science which treats of inductive reasoning, by which, broadly speaking, a general proposition is inferred from a number of particular propositions. Modified logic is that logic which is concerned in the investigation of truth and its contradictory opposite error; of the causes of error, and the impediments to truth and their removal, and of the subsidiaries by which human thought may be strengthened and guided in its functions.

Logomania, a disease affecting the use of language, generally associated with the organic disease of the nervous structure, as in paralysis. In this disease, while conceptions and ideas remain clear, the power of associating these with the words by which they are expressed is lost, and the patient can either not give any names to his conceptions at all or expresses them erroneously.

Logos, a Greek term denoting the word by which the inward thought is expressed.

Log-rolling, the rolling of logs to the river after they are cut and trimmed, as is the custom with lumbermen in many of the States. Also a term used for maneuvers of politicians, by which they seek to secure co-operation in carrying favorite measures through legislatures and other bodies.

Logwood, a wood used as a red dye stuff.

Lohengrin, the hero of an old High German poem, written in the end of the 13th century. He was the son of Parsifal, and a knight of the Grail. At King Arthur's command he was taken by a swan through the air to Mainz, where he fought for Elsa, daughter of the Duke of Brabant,

overthrew her persecutor, and married the lady. Elsa, contrary to his prohibition, persisted in asking him about his origin. After being asked a third time he told her, but was at the same time carried away by the swan back to the Grail. Wagner made it the subject of his great opera, "Lohengrin."

Loher, Franz von, a German writer; born in Paderborn, Oct. 15, 1818. He visited the United States and Canada in 1846 to gather material for a history of the Germans in America, etc. He died in Munich, March 1, 1892.

Loire, the longest river in France, rising in the Cevennes, following, in general, a W. course to its embouchure in the Bay of Biscay. It is tidal to Nantes, 35 miles from its mouth; entire length, 620 miles. It becomes navigable a little above Roanne, 550 miles from the sea.

Loire, a department in the S. E. of France, with St. Etienne for its capital; area. 1,852 square miles; pop. (1921) 637,130.

Loire, Haute, a department of Central France. The Loire crosses it going N., the Allier going N. W.; area, 1,930 square miles; pop. (1921) 306,500.

Loire Inferieure, a maritime department in the W. of France, with Nantes for its capital; area, 2,693 square miles; pop. (1921) 649,723.

Loiret, a department of Central France, on the N. loop of the Loire; area, 2,629 square miles; pop. (1921) 337,224.

Loir-et-Cher, a department of France; area, 2,478 square miles; pop. (1921) 251,528.

Lokeren, a manufacturing town and important railroad junction in Belgium, on the roads from Ghent to Antwerp and from Brussels and Termonde to the N. W.; 18 miles from Antwerp, on the Durme river, a tributary of the Schelde. Its Church of St. Lawrence is widely known because of its ancient and modern paintings and famous pulpit by Verhaghen, built in 1736. Pop. about 25,000.

Lollards, a name given to a religious association which arose at Antwerp about the beginning of the 14th

century. Walter Lollard, who was burned alive at Cologne in 1322, is said to have been the founder, but it seems to have existed before his time. The members were unmarried men and widowers, who lived in community under a chief, reserving to themselves the right of returning to their former mode of life. In 1472 the Pope constituted them a religious order. The name, having become one of contempt, was applied to the followers of Wyclif. While Richard II. reigned, the persecution of the Lollards was not heartily favored by the court, but on the accession of the House of Lancaster in 1399 a change for the worse took place. The first Lollard martyr was William Sautre, who was burnt in London, February 12, 1401. Early in 1414 a conspiracy of Lollards under the leadership of Lord Cobham was alleged to have been detected, and he was committed to the Tower of London, but escaped. Being recaptured, he was put to death by cruel torture in St. Giles' Fields, London, on Dec. 25, 1418.

Lollardism, the tenets of the followers of John Wyclif. In so far as they departed from Roman Catholicism, they approached, and, in some cases, went beyond what subsequently became the doctrine and discipline of Calvinism or Puritanism.

Lolos, a fair-complexioned aboriginal people on the frontiers of China and Tibet.

Lombard College, a coeducational institution in Galesburg, Ill.: founded in 1851 under the auspices of the Universalist Church.

Lombardic Architecture, the style of architecture that prevailed in Lombardy and part of Upper Italy, and which for a long time was recognized as a distinct Lombard style, presenting essential points of difference from the other later Romanesque styles. In the Lombard churches the type of early Christian architecture was abandoned, and the vaulted basilica was introduced in its stead.

Lombards, a people of Germanic descent, who were called by the Latin writers Longobardi. Charlemagne in 774 overthrew the Lombard dynasty and had himself crowned King of the Franks and the Lombards; thencefor-

ward the Lombards gradually were merged with the Italians, although the independent Lombard Duchy of Benevento long survived the overthrow of the Lombard Kingdom. They adopted an Arian form of Christianity.

Lombardy, that part of Upper Italy which lies between the Alps and the Po, having the territory of Venice on the E., and Piedmont on the W. Its history begins with the conquest by the Romans in 222. After the Roman empire it was successively in the hands of Odoacer, the Ostrogoths, the Byzantine emperors, and the Lombards. After the death (1447) of the last Duke of Milan, Lombardy passed to Spain, which held it till 1713, when the duchies of Milan and Mantua came into the hands of Austria. Napoleon made it a part of the kingdom of Italy, but in 1815 it was restored to Austria, and in 1859 was again given up to Italy. Area, 9,333 square miles; pop. (1921) 5,109,868.

Lombok, an island, belonging to the Dutch, in the Indian Archipelago; between Bali and Sumbawa.

London, city, port of entry, and capital of Middlesex county, Ontario, Canada; on the Thames river and the Grand Trunk and other railroads; 115 miles S. W. of Toronto; is in an exceedingly fertile farming section; has extensive and varied manufactures; is the seat of Anglican and Roman Catholic cathedrals, Western University, Huron Divinity College, Provincial Normal School, Collegiate Institute, Y. M. C. A. and Y. W. C. A. buildings, several hospitals, and many homes. Est. pop. (1930) 75,000.

London, the capital of the United Kingdom of Great Britain and Ireland and the largest city in the world; on the Thames, about 40 miles from its mouth. London consists of the city of London, having an area of 670 acres, and the county of London, having an area of 74,816 acres, the total area of London being 75,442 acres. The "Outer Ring" of London's annexed suburbs comprise in all 443,449 acres. "Inner Ring" area, 74,859 a.

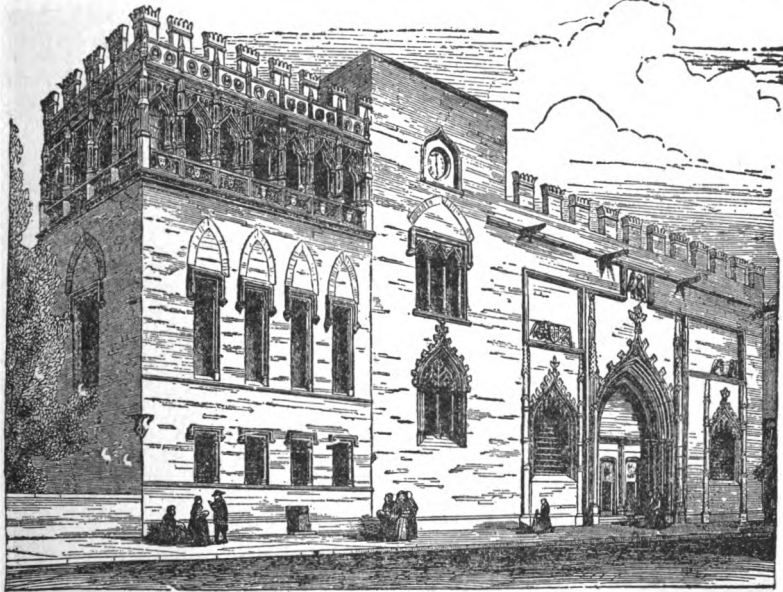
The administrative county of London contains the parishes, districts and places constituted for sanitary purposes by the Metropolis Management Act of 1855. It is also the area of administration of the London School

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Board, and the Metropolitan Poor Law system now embraces the whole of London. The metropolitan and city police districts together, extending to 15 miles round Charing Cross, embrace an area of 443,421 acres, with a population of 7,476,168 in 1921. The population of the city of London, within municipal and parliamentary limits—that is, the old city—was only 26,897 in 1901, showing a decrease in ten years of nearly fifty per cent, consequent on dwellings giving

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Law Courts. Till 1878 this last boundary was marked by an old gateway, which was called Temple Bar, crossing Fleet street near the Temple; but in that year this structure was removed, as forming an impediment to traffic which could no longer be suffered, and a memorial was erected on the site. The portion of the City inside the area of the mediæval walls is known as "London within the walls"; and all the wards are bounded by the site of the old walls; the



LOMBARDIC ARCHITECTURE: LONJA PALACE, VALENCIA.

place to business structures, and the population of the Metropolitan Parliamentary Boroughs, including the city, which is altogether the area commonly known as London, was 4,483,249 in 1921. London is one of the healthiest of the large cities of Europe. "The City"—the historic center of London—at the present day is bounded S. by the Thames; it extends N. to Charterhouse Square, E. to Middlesex street, and W. to the New

portion outside extends irregularly all around, and is known as "London without the walls."

Of the parks the finest and most fashionable is Hyde Park, which lies between the Uxbridge and Kensington Roads, and contains about 400 acres. Kensington Gardens, with which Hyde Park communicates at several points, are beautifully wooded and finely laid out. St. James' Park (83 acres) extends from Buckingham Palace to the

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Horse Guards, and in its center is an ornamental sheet of water, studded with islets covered with trees and shrubs, and around which swim a great variety of aquatic fowls. The Green Park, 71 acres in extent, lies between St. James' Park on the S. and the Piccadilly on the N. Regent's Park, on the N. side of London, covers an area of over 400 acres. Battersea Park is on the S. bank of the Thames, opposite to Chelsea Hospital. Greenwich Park is one of the most delightful features of South London, and has great natural beauties. The famous Greenwich Observatory is situated here. There are many other parks acquired for the use of the public during late years.

The squares of London are very characteristic, and many of them are of great beauty and extent, and well planted with shrubbery, which usually thrives well. The most conspicuous public monuments are: "The Monument," on Fish Street Hill, London Bridge, a fluted Doric column 202 feet high, erected in 1677 in commemoration of the great fire of London; the York Column, at the S. end of Waterloo Place, a plain Doric pillar of granite 124 feet high, surmounted by a bronze statue of the Duke of York; a fluted Corinthian column in Trafalgar Square, 176½ feet high, raised in honor of Nelson, and surmounted with a colossal bronze statue of the hero, with four magnificent lions, at the angles; and the Albert Memorial, Hyde Park, the most splendid and costly monument of recent times, being a Gothic structure 176 feet high, with a colossal seated statue of the prince under a magnificent canopy elaborately sculptured and adorned. On the Thames Embankment, not far from the Temple, now stands the Egyptian obelisk known as Cleopatra's Needle; and W. of it are statues of Robert Raikes, the founder of Sunday-schools, John Stuart Mill, and others. In Waterloo Place is a memorial to the Guards who fell in the Crimea, and here is also a statue of Sir John Franklin.

London is now supplied with gas by eight separate companies, which include in their area of supply a considerable district outside London. The sewerage works of London, with which the Metropolitan Board was charged,

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were formally opened on April 4, 1865. The system consists of lines of intercepting sewers on both sides of the Thames intersecting the old outlets which are retained for service during heavy rainfalls. The total length of the sewers is 82 miles, and the area drained is 120 square miles. The whole system has cost about \$30,000,000. The metropolitan water supply has been considerably amended of late years. There are eight companies supplying London and an extensive area around extending into Middlesex, Essex, Kent, and Surrey. The total quantity of water supplied by these companies amounts to over 200,000,000 gallons daily.

Tunnels as well as bridges enable the vast population to pass under and over the Thames. The once famous Thames tunnel, 2 miles below London Bridge, was opened in 1843 as a roadway under the river, having cost £614,000, but it proved a financial failure, and now serves as a railway tunnel.

St. James' Palace erected by Henry VIII. from a design by Holbein, is an irregular and picturesque brick building. It is well adapted for royal levees, which are held here during the fashionable season. Buckingham Palace was built by George IV., and consists of a quadrangular range of buildings. In the gallery, which is 160 feet long, are some good pictures. The king resides here occasionally in the spring and summer. Whitehall—the Banqueting House—is the only remnant of the ancient palace of Whitehall; the ceiling, painted by Rubens, is the most extensive work of that artist existing in the country. Kensington Palace, situated in Kensington Gardens, is a brick building of the Jacobean period, and was thrown open to the public by Queen Victoria shortly before her death. Lambeth Palace has been for many centuries the residence of the Archbishops of Canterbury. It is a brick edifice, and contains a library of 30,000 volumes. Fulham Palace, the residence of the Bishops of London, is a building of no architectural pretensions. Greenwich Palace, once the home of the Tudor and Stuart sovereigns is a stone building of considerable beauty, now used as a training school for the navy.

The House of Peers and the House of Commons, with the connected apart-

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ments and offices, practically form one structure. It stands on the left bank of the Thames, between the River and Westminster Abbey, and extends over an area of about 8 acres. It is paneled with rich tracery, and profusely decorated with statues and shields of arms of the Kings and Queens of England from the Conquest to the present time. In the S. W. angle is the Victoria Tower, 340 feet in height. There is also a tower in the center, 300 feet high, surmounted by a lantern; and the clock tower, at the N. end of the edifice, with its richly-decorated spire, rises 320 feet. The House of Peers is an apartment 97 feet long, 45 feet wide, and 45 feet high; magnificently decorated throughout. The House of Commons is a somewhat smaller apartment, fitted up in a much plainer style. Westminster Hall, the most magnificent hall in the kingdom, 290 feet long, was built by William Rufus and improved by Richard II. It has recently been exposed on the W. side, the ground laid out as an ornamental garden, and a fine statue of Cromwell erected therein. The hall is now not used except as a members' entrance to the House of Commons.

The government offices are mostly situated in and near Whitehall. The Treasury, Home Office, and Education Department occupy one range of buildings. The India Office and the Local Government Board faces St. James' Park. The Horse Guards and Admiralty, are somewhat nearer Charing Cross. An extensive pile of government offices, for the Foreign Office and the Colonial Offices, has been erected in Downing street. Some of the public offices are in Somerset House, once a royal palace. The postoffice near St. Paul's, is a spacious and handsome building, completed in 1829. It is 390 feet long, 130 feet wide, and 64 feet high. Its facade, which is toward St. Martin's-le-Grand, has three Ionic porticoes. A supplemental building for telegraph and other business occupies the opposite side of St. Martin's-le-Grand. The Mint, a stone building of the ordinary Georgian architecture, finished in 1810, stands on Tower Hill, and occupies about 10,000 square yards. The royal arsenal and dockyard for military stores is at Wool-

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The Tower, which formed the dominating feature of Norman London, stands on the N. bank of the Thames, immediately adjoining the boundary of the city. Besides its use as a fortress the Tower was likewise the temporary residence of several kings and queens of England, but it is now only used as a storage for armor. It occupies an area of 12 acres, inclosed within a wall surrounded by a ditch, and laid out as a garden. On the S. side is an archway called the "Traitors' Gate," through which State prisoners were brought from the river. The most ancient part of the existing edifice is the keep, known as the White Tower, which was erected about 1078 for William the Conqueror. It stands near the center of the quadrangle, around which are placed several other towers, each having its distinctive name. The Tower contains the Wellington Barracks, the jewel room, in which are preserved the regalia of Great Britain; the horse armory, Queen Elizabeth's armory; and the Church of St. Peter-ad-Vincula.

St. Paul's Cathedral stands on the summit of Ludgate Hill. Old St. Paul's was destroyed by the great fire of 1666. The present church, on the same site, was begun in 1675, and completed in 1710. It is 510 feet in length from E. to W., while the transept is 250 feet, exclusive of the semi-circular portico at each end; the breadth of the W. front is 180 feet, and the height of the walls 110 feet. The building is crowned with an immense dome, surmounted by a lantern with ball and cross, the height of the latter being 404 feet from the ground. Westminster Abbey, one of the finest specimens of the Pointed style in Great Britain, dates from the reign of Henry III. and Edward I. The beautiful chapel at the E. end was added by Henry VII., and at the beginning of the 18th century the upper parts of the two towers at the W. end were erected. It is 360 feet long, and 195 feet wide within the walls. Here kings and queens have been crowned, from Edward the Confessor to Edward VII.; and here many of them are buried. In the S. transept are the tombs and honorary monuments of great poets, from Chaucer down to Tennyson, whence it is called "Poets' Corner"; and in other parts are numer-

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ous sculptured monuments to eminent individuals generally, many of whom are interred within its walls. Among Roman Catholic Churches in London are St. George's Cathedral, in Southwark, finished in 1848, and the magnificent new cathedral now being erected at Westminster. Many of the Nonconformist Churches are handsome structures. Among the finest of them are the City Temple on the Viaduct, opened in 1874; Christchurch in Westminster Bridge road; the Apostolic Church in Gordon Square; and the Tabernacle, originally erected for the Rev. C. H. Spurgeon.

The Bank of England, in Threadneedle street, was built in 1732, and now forms a low, flat, insulated, irregular parallelogram covering 4 acres of ground. The Mansion House, the official residence of the lord-mayor, was built in 1739-1753. The Guild-hall, Cheapside, is where the principal business of the corporation of the city of London is conducted. The civic banquets are given here. A splendid new council chamber was completed in 1885. The hall is capable of seating 3,000 persons; at the W. end, raised on pedestals, are colossal figures of Gog and Magog.

London is the seat of the supreme courts of the kingdom. Several of these were long accommodated at Westminster Hall, but in 1883 were removed to the New Law Courts at the junction of the Strand and Fleet street. This great building occupies an area of nearly 4 acres. It is of a somewhat heavy mediæval character, a large W. tower being a chief feature. The Old Bailey, adjoining Newgate, is the central criminal court for the trial of prisoners who have committed serious offenses in the metropolitan district. One or more of the judges of the law courts sit here also in the old court, while the new court is presided over by the recorder and common sergeant of the city of London. There are numerous county courts within London for the trial of small debt cases.

The British Museum, founded in 1753, contains an immense collection of books, manuscripts, engravings, drawings, sculptures, coins, minerals, stuffed animals, fossils, preserved plants, etc., and a magnificent collection of ethnographical objects, Egyptian,

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tian, Assyrian, Etruscan, Greek, and other antiquities. The reading room is of circular form, 140 feet in diameter, with a domed roof 160 feet high. An extensive building (about 650 feet long) has been erected in the South Kensington quarter for the accommodation of the natural history collections.

At the head of the educational institutions stands the University of London, with which are associated University College and King's College. This has now been made by act of Parliament a teaching university. It embraces besides the two above-named colleges, the Inns of Court, the various medical schools attached to the hospitals, the London School of Economics, and other institutions, and promises to become the foremost scientific university in the kingdom; the Royal Naval College, Greenwich; the Royal Military Academy, Woolwich; the Royal College of Science; the medical schools attached to the hospitals; Royal Academy of Music; Royal College of Music; Trinity College, chiefly for music; several colleges for ladies, etc. Among the grammar and secondary schools are: St. Paul's School, founded in 1509; Christ's Hospital (1552); Westminster School, founded by Queen Elizabeth in 1560; University College School, King's College School, City of London School, Mercers' School, and schools of the several city companies. Besides the above and numberless private schools, there are the City and guilds institutions for technical education, many high schools for girls, many free schools, numerous schools of the National Society, and more than 400 schools of the London School Board.

London abounds with hospitals for the cure of disease, as well as other charities. Among these are the three great endowed hospitals: St. Bartholomew's Hospital, in West Smithfield; Guy's Hospital, Southwark; and St. Thomas' Hospital, Lambeth, occupying a large and splendid range of buildings on the Thames Embankment opposite the Houses of Parliament.

Extramural interment is of very recent date. Kensal Green Cemetery, in which several royal personages have been buried, was opened in 1832; it occupies about 48 acres of ground, and is tastefully planted and laid out.

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The cemeteries at Kensal Green, Brompton, the Tower Hamlets, Bethnal Green, Nunhead, and Norwood are the only intramural places in which interments are permitted, excepting in the case of interments in St. Paul's and Westminster Abbey. At the Woking Cemetery, which occupies above 2,000 acres, the poor of several of the London parishes are buried, special railway accommodation being provided for cemetery traffic.

The internal means of transportation comprise steam and electric railroads, including the six subways or "tubes" constructed since 1900, omnibuses, cabs and steamboats, although the Thames has almost ceased to be a local travelers' route. The underground and surface railroads carry over 600,000,000 persons yearly, the subways accommodating 258,000,000. The omnibuses carry nearly 300,000,000 passengers yearly. There are nearly six hundred railway stations in Metropolitan London, which receive annually over 300,000,000 from the various parts of the Kingdom, besides those arriving by canals and the busy river route from the sea.

The port of London extends from London Bridge to the Nore. It is under the care of the corporation of the city for sanitary purposes, under the Thames Conservancy for navigation and under all sorts of other authorities for various other purposes. The tide rises 18 feet at springs and 14 feet at neaps at the London docks; and the depth at low water, spring tides, on the outer sill of St. Katherine's docks, is 10 feet. The largest of these older docks is the West India import dock, 2,600 feet long and 500 broad. The dock accommodation of the port was greatly increased by the construction of the Victoria and Albert docks, which follow next in order on the N. side of the river (opposite Woolwich) and have a combined length of $2\frac{3}{4}$ miles, with a water area of 175 acres. The Victoria dock was opened in 1855, the Albert dock in 1880. The depth over the sill of the E. entrance of the latter at high water is 30 feet.

The most ancient civic officer of London is the lord-mayor of the city of London. He is annually elected from among the aldermen who have been sheriffs of the city, on Sept. 29

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and installed in office on Nov. 9, when a procession takes place, called the lord-mayor's show. The court of aldermen consists of 26 members, including the lord-mayor. They are chosen for life by the taxpayers of the 26 wards into which the city is divided, each being the representative of a separate ward. They are properly the subordinate governors of their respective wards, under the jurisdiction of the lord-mayor. The civic sheriffs, two in number, are annually chosen by the general assembly of the freemen of London. The common council consists of 206 representatives returned by 25 of the wards; the 26th being represented by an alderman. The general business of this court is to legislate for the internal government of the city, its police, revenue, etc. The recorder is generally a barrister of eminence, appointed for life by the lord-mayor and aldermen as principal assistant and adviser to the civic magistracy and one of the justices of oyer and terminer. The "livery" of London is the aggregate of the members of the several city companies, of which there are 75. Of these, 12 are termed great companies and from one or other of them the lord-mayor was formerly chosen. In order of precedence they are: The Mercers, Grocers, Drapers, Fishmongers, Goldsmiths, Skinners, Merchant Tailors, Haberdashers, Salters, Ironmongers, Vintners, Clothworkers. Many of the companies are very rich and possess large halls. Besides the ancient city of London there are now constituted, under the act of 1899, 23 new boroughs, each of which for local purposes is governed by a mayor, aldermen, and council. The governing authority for the entire county of London is the county council which consists of the chairman of the council, 19 aldermen and 118 councillors, the latter being elected by the taxpayers of the several divisions, which are, however, not coincident with the boroughs. There are also two other governing bodies for the county, the School Board and the Metropolitan Asylums Board, the former elected by the taxpayers, the latter by the Boards of Guardians.

The city police, confined to the city proper, is administered by the city corporation as a municipal force and numbers about 900 men. The metro-

politan police is not municipal. It is administered by a commissioner appointed by the Home Office. It consists of over 15,000 men, whose central offices are New Scotland Yard. During the World War the city was several times raided by German aeroplanes and a number of people were killed and injured by dropped bombs, but no military advantage was gained.

Londonderry, the capital of the county of Londonderry, Ireland; on the Foyle, 120 miles from Dublin; the old walls, flanked with bastions, which were built in the year 1614, still remain in fine repair, and are an ornament to the place. Pop. (1921) 40,790.

Lone Star State, The, Texas; the name being derived from the device on its coat of arms.

Long, Charles Chaille, an American military officer; born in Princess Anne, Somerset co., Md., July 2, 1842. He enlisted in the Union army in the Civil War and attained the rank of captain. In 1869 he was appointed lieutenant-colonel in the Egyptian army; in 1874 he was made chief of staff to General Gordon; in 1877 he returned to the United States, studied at the Columbia Law School, and was admitted to the bar. He was appointed consul-general in Korea in 1887.

Long, Crawford W., an American physician; born in Danielsville, Madison co., Ga., Nov. 1, 1815. He was one of the claimants of the discovery of the use of anesthetics in surgical operations. He died in Athens, Ga., June 16, 1878.

Long, Edwin, an English painter; born in 1839. He acquired a high reputation as a painter of historical scenes from Eastern history. He died in 1891.

Long, John Davis, an American statesman; born in Buckfield, Oxford co., Me., Oct. 27, 1838. He was graduated from Harvard College in 1857; studied law and was admitted to the bar; was a member of the Massachusetts Legislature, speaker of the house three years, lieutenant-governor of his State in 1879 and governor in 1880-1881, and 1882; elected to Congress and was for several years on the state-house construction commission of his

State; was Secretary of the Navy in 1897-1902. He died Aug. 28, 1915.

Long Beach, a city and summer resort in Los Angeles county, Cal.; on the Pacific coast and the Southern Pacific and other railroads; 20 miles S. of Los Angeles. Pop. (1930) 142,032.

Long, Stephen Harriman, an American engineer; born in Hopkinton, N. H., Dec. 30, 1784; died 1864.

Long Branch, a city in Monmouth co., N. J.; on the Atlantic Ocean, 42 miles S. of New York city. In the early part of the administration of President Grant it became popularly known as the "Summer Capital of the United States." President Garfield died in Franchlyn cottage at what is now Elberon, a short distance below the present city. Pop. (1930) 18,399; summer pop. over 20,000.

Longfellow, Henry Wadsworth, an American poet; born in Portland, Me., Feb. 27, 1807; was graduated at Bowdoin College. While at college he distinguished himself in the study of modern languages, and published some short poems. In 1826 he accepted the professorship of modern languages at Bowdoin, being allowed three years to prepare himself for the post by study and travel in Europe. He was elected to the chair of modern languages and literature in Harvard University. After spending another year in Europe, studying Scandinavian languages and literature, he entered on his professorship in 1836. In 1839 he published "Hyperion, a Romance"; "Evangeline" in 1847; in 1855 "Hiawatha"; in 1858 the "Courtship of Miles Standish"; in 1863 "Tales of a Wayside Inn"; in 1871 the "Divine Tragedy"; in 1874 "The Hanging of the Crane." He resigned his chair at Harvard in 1854. In 1868-1869 he again traveled in Europe, and received the degree of LL. D. and D. C. L., from the Universities of Cambridge and Oxford respectively. His poems are equally popular on both sides of the Atlantic. He died in Cambridge, Mass., March 24, 1882.

Longfellow, Samuel, an American clergyman, brother of Henry W. Longfellow; born in Portland, Me., June 18, 1819. He was graduated at Harvard College in 1839 and at the Divinity School in 1846. Later he settled in Cambridge, Mass. As a hymn-

Long Island

writer he had few equals. He died in Portland, Me., Oct. 3, 1892.

Long Island, an island forming part of the State of New York; 115 miles in extent and from 12 to 23 miles broad. It is connected with the Borough of Manhattan by four suspension bridges and three tunnels. The island is divided into Kings, Queens, and Suffolk counties. Kings and Queens counties form part of the city of New York as the Borough of Brooklyn (pop. 1928, 2,308,631) and Borough of Queens (pop. 1928, 854,449), respectively. Area, 1,682 square miles.

Long Island Sound, a large body of water lying between Long Island and New York and Connecticut, length about 110 miles; width varying from 2 to 25 miles. It is in the route of a very large and important trade between the city of New York and the East, and is navigated by numerous regular lines of steamers. There are many lighthouses and marked batteries along its coasts.

Longitude, in astronomy, the distance in degrees reckoned along the ecliptic from the spring equinox to a circle at right angles to it passing through the heavenly body whose longitude is required. In geography, distance on the surface of the globe. Longitude, in the United States, is reckoned from the meridians of Washington, Greenwich, and Paris.

Long Parliament, in English history, a Parliament summoned by Charles I. It met at Westminster, Tuesday, Nov. 3, 1640, and continued its sittings until it was dissolved by Cromwell, April 20, 1653.

Long's Peak, one of the highest peaks of the Rocky Mountains in Colorado; it is 14,271 feet high.

Longstreet, Augustus Baldwin, an American educator; born in Augusta, Ga., Sept. 22, 1790. He was graduated at Yale College in 1813, studied law at Litchfield, Conn., and was admitted to the bar in Richmond co., Ga., in 1815. In 1838 he entered the Methodist Episcopal ministry, and later was pastor of several Southern universities. He died in Oxford, Miss., Sept. 9, 1870.

Longstreet, James, an American military officer; born in Edgefield dis-

Longworth

trict, S. C., Jan. 8, 1821. He was graduated at the United States Military Academy in 1842. He served with distinction in the Mexican War. Longstreet was appointed, in July, 1858, paymaster in the regular army. Resigning his commission and joining the Confederates, June 1, 1861, he was appointed to the command of the 4th brigade of General Beauregard's 1st corps, and was present at the defeat of the National army at Bull Run, July 21. After the battle of Fredericksburg, Dec. 13, 1862, General Longstreet was given the command of a corps, with the rank of Lieutenant-General. With this force he took an active part in the battles of Chancellorsville (May 2-5, 1863) and Gettysburg (July 1-3); and the gallantry and skillful generalship he displayed on all occasions caused him to be regarded as one of the leading generals in the Confederate army. In the battle of the Wilderness (May 5, 6, 1864), he was dangerously wounded. After the fall of Richmond he surrendered, and lived in retirement till 1869, when he was appointed Collector of Customs at New Orleans. Later he was made minister to Turkey, and United States marshal for the District of Georgia. In 1897 he was appointed United States commissioner of Pacific railroads. He died Jan. 2, 1904.

Longton, a municipal borough of England, in Staffordshire, 5 miles S. E. of Stoke-upon-Trent. It is a seat of china and earthenware manufacture, and has breweries, malt-kilns, brick-works, and in the vicinity collieries and iron-mines.

Longus, a Greek novelist, probably of 3d century after Christ; author of the romance of "Daphnis and Chloe."

Longworth, Nicholas, American statesman, lawyer and Speaker of the House of Representatives in the Sixty-ninth, Seventieth, and Seventy-first Congresses, born in Cincinnati, Nov. 5, 1869, educated at Harvard University, Harvard Law School, and Cincinnati Law School, first held public office in 1898 as a member of the Board of Education in Cincinnati. During his career he held the offices of representative in the Ohio House, State senator, representative of the First Ohio District in the National House. Died in Aiken, S. C., April 9, 1931.

Lonnrot, Elias, a great Finnish scholar and folklorist; born in Sammatti, Nyland, Finland, April 9, 1802. He made a collection of more or less ancient Finnish folk-songs, "The Lyre" (1829-1831). His latest work was a Finnish Dictionary. He died in Sammatti, March 19, 1884.

Lookout Mountain, a high point in the ridge of mountains running through Northwestern Georgia and adjacent parts of Tennessee and Alabama. It overhangs the Tennessee river near Chattanooga, and from the top, 1,600 feet above the river, seven States can be seen. It was there that during the Civil War, the famous "battle above the clouds" took place between the Confederate force under General Bragg, holding the mountain, and the Union forces, under General Hooker. The latter scaled the almost precipitous sides of the mountain, and surprised the enemy, dislodging them and compelling them to retreat after a desperate conflict. This was on Nov. 24, 1863, and the following day the Union flag was hoisted on Pulpit Rock on the summit of the mountain. This victory gave the Union army unimpeded navigation of the river Chattanooga.

Loomis, Elias, an American physicist; born in Willington, Conn., Aug. 7, 1811. He was graduated at Yale College in 1830, and was the author of over 100 scientific treatises. He died in New Haven, Conn., Aug. 15, 1889.

Loomis, Francis B., diplomat; b. Marietta, O., July 27, 1861; graduate of Marietta College; state librarian, O., 1885-87; consul at St. Etienne, France, 1890-93; minister to Venezuela 1897-1901; to Portugal 1901-02; asst.-sec. of state 1903-05; special ambassador to France to receive the remains of John Paul Jones, 1905.

Loos, a town of France in the Department of Nord, practically a suburb of Lille; manufactures chemicals and textiles; was the scene of a battle between the Germans and the Entente Allies, Sept. 25, 1915.

Lopez, Francisco Solano, President of Paraguay; born in Asuncion in 1827; son of Don Carlos Antonio Lopez, then president. His early education was neglected. After the death

of his father in 1862, he was president for 10 years. He had long been aiming at the foundation of a great inland empire, and as his military preparations were complete, and his army superior to that of any of the South American States, he took opportunity in 1864 to commence hostilities against Brazil. He was surprised on the banks of the Aquidaban by a troop of Brazilian cavalry and slain, March 1, 1870, and his ambitious attempt resulted almost in the extinction of the male population of Paraguay, and the reduction of that republic to a position of dependence on Brazil and Argentina, while nominally retaining its independence.

Lopez, Jose Hilario, President of New Granada; born in Popayan, Feb. 18, 1798. He was president of New Granada, Colombia, from March 7, 1849, to March 7, 1852. In the latter year of his administration slavery was abolished. He died in Neiva, Nov. 27, 1869.

Lopez, Narciso, a Spanish-American filibuster; born in Venezuela in 1798 or 1799. In 1841 he went to Cuba, but was obliged to quit. He was at the head of three expeditions, the first, in 1849, was suppressed by the United States; the others reached Cuba but resulted in disaster; and Lopez was captured and executed in Havana, Sept. 1, 1851.

Lorain, a city in Lorain county, O.; on Lake Erie, the Black river, and the Baltimore & Ohio and other railroads; 25 miles W. of Cleveland; has a good harbor, large trade in iron ore, coal, grain, and lumber, and considerable mercantile trade; and contains shipyards, iron and steel works, railroad shops, and vapor stove and steam shovel works. Pop. (1930) 44,512.

Lord. The five orders of English nobility constitute the lords temporal, distinguished from the prelates of the Church, who constitute the lords spiritual in the House of Lords. Lord is also applied to persons holding certain offices; as, the Lord Chief-Justice, the Lord-Mayor, etc.

In the translation of the Scriptures, Lord is used, without much discrimination, for all the names applied to God. In the New Testament it is applied to Jesus Christ.

Lord, John, an American historian; born in Portsmouth, N. H., Sept. 10, 1812. He spent most of his life in historical study and lecturing; three years (1843-1846) were passed in England, where he spoke on "The Middle Ages." His lectures were delivered in the principal towns and cities of the United States. He died in Stamford, Conn., in 1894.

Lord, William Wilberforce, an American clergyman; born in Madison co., N. Y., Oct. 28, 1819. He was clergyman in the Protestant Episcopal Church; chaplain of the Confederate army in the Civil War; and published a volume of "Poems" (1845), that was praised by Wordsworth. He died April 22, 1907.

Lord Chamberlain, an officer in England who has control of the establishment attached to the chapels royal; of officers and servants attached to the royal chambers, except of those of the bedchamber; and over the medical men of the household. He directs all great royal ceremonies, superintends the royal wardrobe and the jewel house at the Tower, and licenses theaters and plays, his power extending to the cities of London and Westminster, and certain other parts of the metropolis, as well as to those places within which the sovereign may reside occasionally.

Lord Great Chamberlain, a State office of great antiquity entirely distinct from that of Lord Chamberlain of the Household. The Lord Great Chamberlain assists, with the Earl Marshal, at the ceremony of the introduction of new peers; he issues tickets for the opening and prorogation of Parliament, and orders of admission for viewing the House of Lords when Parliament is not sitting. He arranges the preparation of Westminster Hall for a coronation, the trial of a peer, or for any other ceremony taking place therein. He walks on the right of His Majesty when he opens Parliament in person. The office is hereditary, and at present is held by the Earl of Ancaster.

Lord-Lieutenant, a British official of high rank, representing the sovereign, as: (1) The Viceroy, or Lord-lieutenant of Ireland, who is a member of the ministry, retiring from office with them. He has the control of the government of the country, sub-

ject to the approval of the ministry in office, and nearly all the patronage is also vested in him. He can confer knighthood. (2) The lord-lieutenant of a county, the principal official of a county.

Lord Mayor, the title given to the chief magistrates of London, and York, England, and of Dublin, Ireland.

Lord's Prayer, the prayer which Jesus taught His disciples (Matt. vi: 9-13), and which is used in public worship whether liturgical or not.

Lord's Supper, a term first used by St. Paul in I Cor. xi: 20, of a ceremonial ordinance observed in the Corinthian and doubtless in other churches. The night on which Jesus was betrayed, He took bread, blessed it, brake it, and gave it to His disciples to eat, with wine similarly blessed for them to drink, the former in the Protestant view symbolizing His broken Body, the latter His shed Blood. St. Luke records that Jesus said, "Do this in remembrance of me." St. Paul evidently considered that these words, addressed originally to the apostles, were designed for the Church at large.

Lorelei, or Lurlei, a rock which rises perpendicularly from the Rhine to the height of 427 feet, near St. Goar. But the name is best known from Heine's song of the siren who sits on the rock combing her long tresses, and singing so ravishly that the boatmen, enchanted by the music of her voice, forget their duty, and are drawn on the rock and perish.

Lorente, Sebastian, a Peruvian historian; born about 1820. A Professor of History at the University of San Marcos, he made valuable contributions to the historical literature of his country in his "History of Peru" (5 vols. 1860); "History of the Conquest of Peru" (1861); and articles in the "Peruvian Review." He died in Lima in November, 1884.

Lorenz, Adolf, an Austrian surgeon, celebrated for his so called "bloodless operations," a scientific system of bonesetting, for the reduction of dislocations of the hip-joint. He was born in 1854; graduated at Vienna in 1880; came into prominence after 1895 by his manipulating process. Visited the United States in 1903, and effected remarkable cures.

Lorimer, George Claude, an American clergyman; born in Edinburgh, Scotland, in 1838; came to the United States in 1856; was educated at Georgetown College, Ky. In 1901, he accepted a call from the Madison Avenue Baptist Church of New York city, after several years as pastor of the Tremont Temple, Boston. He wrote "Christianity and the Social State" and other works. Died, Sept., 1904.

Loring, Edward Greeley, an American jurist; born in Massachusetts in 1802; was a graduate of Harvard. While probate judge and United States Commissioner at Boston he remanded to slavery the negro Anthony Burns, for which he was removed from the bench. Later he was appointed by President Lincoln judge of the Court of Claims, which post he resigned in 1877. He died in 1890.

Loring, William Wing, an American military officer; born in Wilmington, N. C., Dec. 4, 1818; joined the United States army as a private in a troop of volunteer cavalry; participated in the Florida War in 1835-1843, becoming 2d lieutenant in 1837. During the war with Mexico he lost an arm at the siege of the City of Mexico; and was brevetted lieutenant-colonel and colonel. In May, 1861, he resigned his commission; became a Brigadier-General in the Confederate army and later Major-General. He went to Egypt in 1869 and was made a pasha and chief of staff in the army of the Khedive. In 1879 he returned to the United States and published "A Confederate Soldier in Egypt." He died Dec. 30, 1886.

Loris, a genus of Lemnidae, with rounded heads and pointed snouts, slender bodies, very large eyes, and rudimentary tail or none at all. The two species known are both natives of the East Indies. The largest species is not so large as a cat; the other, *L. gracilis*, is much smaller.

Loris-Melikoff, Michael Tanielovitch Tainoff, Count, a Russian military officer; born in Tiflis, Russia, Jan. 1, 1826. He entered the army in 1843; was made commander of the army in Armenia in 1876, and took Kars. In 1878 he was made a count. In 1880 he was appointed minister of the interior, in which post he showed a tendency toward measures

of a wide remedial kind, and had persuaded the czar, Alexander II., to call a kind of national representative assembly, when the assassination of the latter occurred in March, 1881. On the accession of Alexander III. Loris-Melikoff's position became untenable, and he resigned. He died in 1888.

Lorraine. See ALSACE-LORRAINE. **Lory**, a tribe of birds allied to the parrots; remarkable for their soft beaks. They are found in most of the islands of the Indian Archipelago and in Australia.

Los Angeles, a city and county-seat of Los Angeles co., Cal.; on Los Angeles river 480 miles S. E. of San Francisco. It is the commercial center for Southern California; is in a region containing gold, silver, and lead mines, and petroleum wells, and yielding the principal grains, wines, and citrus and deciduous fruits. Pop. (1930) 1,238,048.

Lossing, Benson John, an American historian; born in Beekman, Dutchess co., N. Y., Feb. 12, 1813. He was a voluminous writer, and equally at home in historical, biographical, and critical composition; but his most useful and enduring works were his great "Pictorial Field-Books" of the Revolution, the War of 1812, and the Civil War, etc. He died near Dover Plains, N. Y., June 3, 1891.

Lot, a Department in the S. of France, formed out of the old Province of Guienne, and comprising the arrondissements of Cahors, Gourdon, and Figeac; watered by the Dorgogne and Lot rivers; area, 2,018 square miles; pop. (1921) 210,000; capital, Cahors.

Lot, the son of Haran and nephew of Abraham, by whom he was brought up. He was saved at the destruction of Sodom, but his wife was turned into a pillar of salt for disobeying the injunction not to look back.

Lot-et-Garonne, a Department in the S. W. of France, formed out of the old Provinces of Guienne and Gascony, and comprising the arrondissements of Agen, Villeneuve, Marmande, and Nerac; area, 2,079 square miles; pop. (1921) 270,000.

Lothrop, Harriet Malford, pseudonym Margaret Sidney, an American novelist, wife of the publisher, D. Lothrop; born in New Haven, Conn.,

in 1844. She was founder and president of the National Society of the Children of the American Revolution.

Loti, Pierre, a French poet and novelist; real name Louis Marie Julien Viaud; born in Rochefort, Jan. 15, 1850. He was a French naval officer. In 1892 he was elected a member of the French Academy. His works include many novels that are public favorites in France. Died, 1923.

Lotion, a liquid remedy consisting principally of water, as a menstruum, and applied to circumscribed portions of the skin, or of the mucous surfaces. Lotions are either cooling, stimulating, astringent, soothing, or sedative.

Lottery, a scheme for the distribution of prizes by chance. Lotteries, like every other species of gambling, have a pernicious influence on the character of those concerned in them. As this kind of gambling can be carried on secretly and the temptations are thrown in the way of both sexes, all ages and all descriptions of persons, it spreads widely in a community, and thus silently infects the sober, economical, and industrious habits of a people.

Lotus, a name given to various flowers, including several beautiful species of water lily, especially the blue water lily, and the Egyptian water lily which grow in stagnant and



NYMPHAEA LOTUS, OR EGYPTIAN WATER LILY.

slowly running water in the S. of Asia and N. of Africa. The latter grows in the Nile and adjacent rivulets and has a large white flower. The root is eaten by the people who live

near the lake Manzaleh. It was the rose of ancient Egypt, the favorite flower of the country, and was often made into wreaths or garlands.

Lotze, Rudolf Hermann, a German philosopher; born in Bautzen, Saxony, May 21, 1817. He ranks among the first of metaphysicians, and has given impulse to the recent development of physiological psychology. He died in Berlin, July 1, 1881.

Loubet, Emile, President of the French Republic; born in Marsanne, Drome, France, Dec. 31, 1838. The first office he held was that of mayor of the city; in 1876 he was elected to a seat in the Chamber of Deputies; was reelected in 1877, and again in 1881, but in 1885 he moved up to the Senate; was Minister of Public Works in the shortlived Tirard Cabinet, Dec. 12, 1887, to April 3, 1888; on the refusal of M. de Freycinet to reassume the presidency of the cabinet was intrusted by President Sadi-Carnot with the task of organizing the ministry with the larger part of its former constituents, himself assuming the portfolio of the Interior and the presidency of the Cabinet. M. Loubet was elected president of the senate in 1896, to which position he was reelected in January, 1898. He succeeded Felix Faure as president, Feb. 18, 1899, and was highly esteemed at home and abroad. He was succeeded by M. Fallières (q. v.) in 1906.

Louis, the name of various European rulers.

Louis VIII., named the Lion, King of France; born in 1187. He was the son of Philip Augustus and his queen Isabella of Hainault. In 1226 he undertook a crusade against Raymond, Count of Toulouse, and the Albigenses; took Avignon after a three months' siege; overran Languedoc; and died in Auvergne in November of the same year. He had married in 1200, Blanche of Castile, by whom he had seven sons and one daughter.

Louis IX., or **Saint Louis**, King of France; born in Poissy, France, April 25, 1214. He succeeded his father, Louis VIII., in 1226. Being then only in his 12th year, he was placed under the guardianship of his mother, Blanche of Castile, who was made regent of the kingdom. He was de-

clared of age in 1236. Having made a vow, in the event of recovering from a dangerous disease, to march against the infidels in the Holy Land, he made preparations for doing so, and in 1248 embarked at Aigues-Mortes with an army of 50,000 men, accompanied by his queen, his brothers, and almost all the chivalry of France. The campaign was disastrous and resulted in his surrender and the ultimate payment of a vast ransom. In 1524 he returned home and in the interval Queen Blanche, who had ruled the kingdom in an exemplary manner, had died. Notwithstanding the disasters of his crusade, he undertook a new one, the object of which was the conquest of both Egypt and Palestine. Tunis, however, was the first point of attack; but while engaged at the siege of that place, a pestilence broke out among the French troops; and, after seeing one of his sons and a great part of his army perish, he was himself one of its victims, Aug. 24, 1270. Louis was canonized by Boniface VIII. in 1297, and his life was written by his friend, the Sire de Joinville.

Louis, XI., King of France; born in Bourges, France, July 3, 1425. He was the son of Charles VII. On the death of his father, in 1461, he dismissed the former ministers and filled their places with obscure men, without character or talents to recommend them. Insurrections broke out in various parts of his dominions; but they were soon quelled, and followed by many executions. In everything he did, his crooked policy and sinister views were evident. He became involved in a war with Charles the Bold, Duke of Burgundy, which lasted 1465-1472. A peace was concluded on favorable terms for Charles and his allies, but when Louis returned to Paris he used every artifice to evade its fulfillment. The great object of Louis was the establishment of the royal power, and the overthrow of the feudal aristocracy; but it is almost impossible to convey a just idea of his character, so contradictory were its qualities. He was at once confiding and suspicious, avaricious and lavish, audacious and timid, mild and cruel. He died in Plessis-les-Tours, near Tours, France, Aug. 30, 1483.

Louis XIV., called the Grand Monarque, King of France; born in St. Germain-en-Laye, France, Sept. 5, 1638. He was only five years old on the death of his father, Louis XIII, the regency being in the hands of the queen-mother, Anne of Austria, under whom Mazarin acted as prime minister. The nation was then involved in a war with Spain and the emperor, which was maintained with glory to the French arms by the Prince of Conde and the famous Turanne; but though Louis was successful abroad, his kingdom was distracted by internal divisions; the Parisians, irritated against Mazarin and the queen, took up arms; and the king, his mother, and the cardinal were obliged to fly. The Spaniards, profiting by these troubles, made several conquests in Champagne, Lorraine, and Italy. In 1651 the king assumed the government. Louis committed an act of impolitic cruelty, by the revocation, in 1685, of the Edict of Nantes, granted by Henry IV. in favor of the Protestants—a measure which drove from France a vast number of ingenious mechanics and others, who settled in America, England and Holland. The internal administration of his government was marked by the highest magnificence. His foreign wars were attended by varying fortune. The favorite motto of Louis, *L'état c'est moi* ("I am the State") was quite as much the expression of a principle as of personal pride, and it meant the extension and consolidation of the state from its own center, in place of the distraction of government occasioned by the feudal system. He carried this principle into effect immediately after the death of Mazarin, by dispensing with any future prime minister; and the issue of it (besides its results in his political wars) was to humble the noblesse, and raise the talent of the middle classes to places of trust—as in the person of Colbert.

The domestic history of Louis, for the greater part of his life, is far more open to censure than any part of his public conduct. He died in Versailles, France, Sept. 1, 1715.

Louis XV., King of France; born in Versailles, France, Feb. 15, 1710. He was great grandson and successor of the preceding; and Louis XIV. dy-

ing when he was only five years of age, the kingdom was placed under the regency of Philip, Duke of Orleans. Louis was crowned in 1722, and declared of age the following year. The beginning of his reign was rendered disastrous by the Mississippi scheme of John Law which ruined thousands of people. In his foreign wars he was at first successful, but was ultimately defeated both by Prussia and England, and his reign witnessed the loss of the French possessions in North America. His personal conduct was unspeakably immoral, the French people groaned under the exactions made necessary by his lavish and licentious expenditures, and he himself is said to have foreseen the upheaval that followed in the next reign, without seeking to prevent it. He died in Versailles, France, May 10, 1774.

Louis XVI., King of France; born in Versailles, France, Aug. 23, 1754. He was son of Louis the dauphin and Maria Josephine, daughter of Frederick Augustus, King of Poland, and immediately created Duke of Berri. On the death of his father, in 1765, he became the heir to the throne; and in 1770 he married Marie Antoinette, an Austrian princess of great beauty and accomplishments. In 1774 he succeeded to the crown. France was in a deplorable state; her finances were nearly exhausted, her trade diminished, her navy destroyed, and the nation groaned under a weight of debt. In this state of things the people looked to their young king to recover their lost greatness, and he seconded their hopes by calling around him those persons whom he thought most likely to redeem the errors of the late administration. He chose Turgot and Malesherbes for his first ministers. His first act was very popular; he dispensed with the customary tax paid by the people at the beginning of every new reign. In 1774 the Parliament was recalled, and affairs began to assume a favorable aspect, when the war of the American Revolution broke out, and the agents of the United States, Franklin and Deane, arrived in Paris to solicit aid for the struggling colonies. Louis, though sympathizing with the Americans, was averse to embarking in a war on their account; but his pacific inclination was at

length overcome by the urgency of his ministers and of the queen, and on Feb. 6, 1778, he concluded the treaty of alliance with the United States which in a few months resulted in the declaration of hostilities between France and Great Britain. The war cost France 1,400,000,000 livres; and besides the irreparable deficit it produced in the already disordered finances, it tended greatly to weaken the monarchy by diffusing republican and revolutionary ideas. Louis convened the states-general in May, 1789. The public mind was agitated. Mirabeau was the leader of the popular party. At his voice the people of Paris arose, and on July 14 of that year stormed the Bastille. Revolution had begun; and in October the armed mob marched to Versailles, forced the palace, murdered the guards, and searched in vain for the queen, who would have shared the same fate had she not escaped from her bed, which the miscreants pierced with their sabres. War was declared against France by the emperor and the King of Prussia; and the Duke of Brunswick marched into the country, but was forced to retreat. In the meantime, the people were wrought up to a pitch of savage ferocity, and assaulted the Tuileries, in storming which they murdered the brave and loyal Swiss guards. The king and royal family sought refuge in the National Assembly, which ordered them to be sent to the Temple. The Legislative Assembly gave way to the National Convention, which brought Louis to trial. On Jan. 17, 1793, he was sentenced to death for conspiring against the public good. On Jan. 21 he was led to the scaffold, where he showed the calm fortitude which had distinguished him through all the scenes of suffering and indignity to which he had been exposed.

Louis XVII., titular King of France; born in Versailles, France, March 27, 1785. He was second son of the preceding, was at first styled Duc de Normandie, and after the death of his elder brother, Louis-Joseph, in 1789, became dauphin of France. Imprisoned in the Temple with his relatives, he was, after his father's death, styled monarch by the Royalists and foreign powers. A cob-

bler, named Simon, was appointed his jailer, with the derisive title of tutor. He died June 8, 1795, it is suspected of poison; but it is more probable that his life was brought to a premature close by the harsh treatment to which he had been subjected in prison.

Louis XVIII. (Stanislas Xavier), surnamed Le Desire, King of France; born in Versailles, France, Nov. 17, 1755. He was the second son of the dauphin (the son of Louis XV.), and was originally known as the Count de Provence. At the accession of his brother, Louis XVI., in 1774, he received the title of Monsieur; and after the death of his nephew, in 1795, from which time he reckoned his reign, he took the name and title of Louis XVIII., King of France and Navarre. When Napoleon was overthrown he became king of France in fact. During the last few years of his reign Louis was much enfeebled by disease; and a paralysis of the lower limbs taking place, he died, Sept. 16, 1824.

Louisa, Queen of Prussia; born in Hanover, March 10, 1776. Her father, Duke Karl of Mecklenburg-Strelitz, was then commandant. She was married to the Crown-prince of Prussia, afterward Frederick-William III., Dec. 24, 1793, and was the mother of Frederick-William IV. and William III., afterward emperor. After her husband's accession to the throne she became exceedingly popular, her great beauty being united with dignity and grace of manners, and with much gentleness of character and active benevolence. She died in Strelitz, July 19, 1810.

Louisiade Archipelago, a group of islands belonging to British New Guinea, and forming an E. extension of that island. All are mountainous, rising to 3,500 feet in St. Aignan's, and covered with vegetation. The inhabitants are numerous, but wild, and head-hunters; they seem to partake of both Malayan and Papuan characteristics.

Louisiana, a State in the South Central Division of the North American Union; bounded by Arkansas, Mississippi, the Gulf of Mexico, and Texas; admitted to the Union, April 30, 1812; number of parishes (counties), 64; capital, Baton Rouge; total area, 48,506 square miles; pop. (1920) 1,798,509; (1930) 2,094,496.

The surface of the State may properly be divided into two parts, the uplands, and the alluvial and coast and swamp regions. The Mississippi flows upon a ridge formed by its own deposits, from which the lands incline toward the low swamps beyond at an average fall of six feet per mile. These alluvial lands are never inundated save when breaks occur in the levees by which they are protected against the floods of the Mississippi and its tributaries. The uplands and contiguous hill lands have an area of more than 25,000 square miles, and they consist of prairie and woodlands. The State also has 1,060 square miles of landlocked bays, 1,700 square miles of inland lakes and a river surface of over 500 square miles.

The soil of Louisiana, generally, is exceedingly fertile and it varies from 10 to 40 feet in depth. The alluvial lands are world-renowned for their productiveness, and the larger part of the uplands surpass in fertility the same character of lands in most of the States.

According to 1925 reports, the total value of all farm property was \$385,911,000. In 1929 the estimated value of 67 crops was \$122,000,000 to which corn contributed \$19,328,000; rice, \$18,965,000; cottonseed, \$11,160,000; cotton lint, \$67,230,000. There were 2,768,000 tons of cane used for sugar from which 208,271 tons of that product were extracted. The petroleum production was 21,626,000 barrels. Sulphur also constitutes one of Louisiana's sources of wealth.

The census of manufactures, 1927, reported 1,624 establishments with 82,415 employees earning \$79,673,000 and an output valued at \$638,361,000 (\$710,050,100 in 1925 and \$619,822,384 in 1923). The principal industries of Louisiana are lumber, timber and planing mill products, petroleum refining, bagasse, and sugar refining.

In 1928 there were 415,481 pupils enrolled in public and private elementary and secondary schools under 11,473 teachers; 298 public and private high schools and academies with 38,724 pupils under 1,839 teachers; for higher education, 11 universities, colleges and professional schools with 10,511 students under 911 professors and instructors. About two-thirds of the total population is negro.

Louis Philippe

In 1927 the assessed valuation of all taxable property was \$1,174,954,042; net state debt, \$16,459,287; aggregate debts of counties, cities and minor civil divisions, \$112,117,000; State receipts, \$27,976,277; expenditures, \$29,276,317; amount of tax levy, \$9,433,000.

The governor is elected for a term of four years and receives a salary of \$7,500 per annum. Legislative sessions are held biennially and are limited in length to 60 days each. There are 8 Representatives in Congress.

Louisiana was colonized by the French in 1699; in 1763 ceded by France to Spain; in 1800 re-ceded to France; and in 1803 purchased from France by the United States for \$15,000,000. On Feb. 11, 1811, an Act of Congress enabled the inhabitants to form a constitution and State government; and by a subsequent act the territory of Orleans was admitted to the Union, under the title of the State of Louisiana, on April 30, 1812.

Louis Philippe, King of the French; born in Paris, France, Oct. 6, 1773. He entered the army in 1791, and favoring the popular cause in the Revolution he took part in the battles of Valmy and Jemmapes; was present at the bombardment of Venloo and Maestricht, and distinguished himself at Neerwinden. Dumouriez had formed a scheme for placing him on the throne as a constitutional monarch, and being included in the order of arrest directed against Dumouriez, in 1793, he took refuge within the Austrian territory. For 21 years he remained exiled from France, living in various European countries and in America. He had become Duke of Orleans on the death of his father in 1793, and in 1809 he married the daughter of Ferdinand IV. of Naples. After the fall of Napoleon I. he returned to France and was reinstated in his rank and property. At the revolution of July, 1830, he was made "Lieutenant-General of the Kingdom," and in August became king of the French. He reigned for 18 years, when the revolution of 1848 drove him from the throne to England, where he remained till his death in Claremont, Aug. 26, 1850.

Louis Quatorze, the name given to a style of architecture and internal

decoration which prevailed in France in the reign of Louis XIV.

Louis Quinze, the name sometimes given to the style of architecture and internal ornamentation prevailing in France during the reign of Louis XV. It is often known under the designation Rococo.

Louisville, a city and county-seat of Jefferson co., Ky.; on the Ohio river. Area, 28 square miles; pop. (1920) 234,891; (1930) 307,745.

The public buildings of Louisville are of a substantial character. They include the Court House, which is a limestone structure costing \$1,000,000; the City Hall, built in the composite style, cost, \$500,000, etc.

Louisville has upward of 2,000 manufacturing establishments. It is the center of the tobacco trade of the United States, and has very large interests in the manufacture of iron piping, pig-iron, woolen jeans, leather, and furniture. It is the great distributing market for all the fine whiskies manufactured in Kentucky and also has a number of large breweries. An important industry is the manufacture of cement from the limestone, dug from flats under the river below the dam, which are exposed when the water is low.

The public schools are among the best in the United States. The institutions of higher education include the Kentucky School of Medicine, a normal school, Southwestern Homeopathic Medical College, colleges of pharmacy and dentistry, National Medical College for the Colored Race, etc., and the Southern Baptist and Presbyterian Theological Seminaries.

The first settlement was made here in 1778 by 13 families under Col. George Roger Clarke. Two years later the place was incorporated by an act of the Virginia Legislature, and called Louisville in honor of Louis XVI. of France, whose soldiers were then aiding the Americans in the Revolutionary War. It was chartered as a city Feb. 13, 1823. In 1890 it was visited by a cyclone which destroyed \$3,000,000 worth of property and killed 100 persons.

Lounsbury, Thomas Raynesford, an American scholar; born in Ovid, N. Y., Jan. 1, 1838. He was graduated at Yale in 1859, and led

Lounsbury

Lourdes

the life of a student, till 1862, when he served as a volunteer in the Union army, throughout the Civil War. After 1871 he was Professor of English in the Sheffield Scientific School. His crowning work is "Studies in Chaucer, his Life and Writings." He died April 9, 1915.

Lourdes, a French town, dep. of Hautes-Pyrenees, on the Gave de Pau, where in 1858 a peasant girl declared that the Virgin Mary had appeared to her in a cave. Since then pilgrims have flocked to Lourdes. Pop. 12,000.

Louvain, a city in the Belgian Province of Brabant, 19 miles E. of Brussels; chief industries, bell-founding, brewing, and the manufacture of leather, paper, lace, starch, and chemicals. It is noted for its many handsome and historic buildings and for the vicissitudes through which it has passed. It was a large and rich town as far back as the 14th century, when it had wide repute for its cloth manufactures and its position as capital of Brabant. The most appalling of its misfortunes came directly after the German invasion of Belgium. Brussels was occupied on Aug. 20, 1914, and on the 27th following Louvain was set on fire. Pop. (1921) 39,255. See APPENDIX: *World War*.

Louvre, the name of a celebrated public building of Paris, situated in the N. part of the city, near the right bank of the Seine. In the time of Dagobert, a hunting-seat existed here, the woods extending over all the space which is now occupied by the N. part of the city down to the banks of the Seine. It was converted into a stronghold by Philip Augustus in 1214, and used as a state prison. Charles V. (1364-1380) added some embellishments to it, and brought thither his library and his treasury; and Philip I., in 1528 erected that part of the palace which is now known as the gallery of Apollo. Additions and improvements were later made by Henry IV., Louis XIII., Louis XIV. and Napoleon. A resolution having been passed by the provisional government in favor of the completion of the whole building, the foundation-stone of the new Louvre was laid July 25, 1852, and the work completed in

Louvre

1857, at a cost of nearly 6,000,000 francs.

The Louvre now consists of two parts—the old and new Louvre. The former is nearly a square, 576 feet long and 538 wide, and inclosing a quadrangle of about 400 feet square; its east facade looking toward the church of St. Germain l'Auxerrois, is a colonnade of 28 Corinthian columns, and one of the finest works of architecture of any age or country. The new Louvre consists of two vast lateral piles of buildings, projecting at



LOUVRE—WEST PAVILION.

right angles from the two parallel galleries, which formerly joined the old Louvre with the Tuileries, and formed the E. boundary of the Place du Carrousel. Turning into the Place Napoleon III., they present on each side a frontage of 580 feet, intersected by three sumptuous pavilions intended to accommodate the minister of state, the minister of the interior, and the library of the Louvre. Some of the galleries on the upper stories are set apart for permanent and annual exhibitions of works of art. In the

central part of the building is the council-chamber, to be used as an assembly-room for the public bodies of the republic on the opening of the legislature and on other solemn occasions. The Tuileries, before its burning by the communists and subsequent demolition, and the Louvre formed together a single palace of a magnitude and splendor which can be paralleled nowhere else. The total space covered or inclosed by the Louvre is nearly 60 acres.

Love, Alfred Henry, an American philanthropist; born in Philadelphia, Pa., Sept. 7, 1830. After 1867 he was editor of the "Voice of Peace and the Peacemaker" and "Court of Arbitration." In 1866 he aided in organizing the Universal Peace Union. He contributed to periodicals many articles on reformatory subjects and made many addresses. His efforts on behalf of peace at the time of the Spanish-American conflict aroused unfavorable attention. D. June 29, 1913.

Love, Court of, in mediæval France, a tribunal composed of ladies illustrious for their birth and talents, whose jurisdiction, recognized only by courtesy and opinion, extended over all questions of gallantry. Such courts existed from the 12th to the 14th century, while the romantic notions of love which characterized the age of chivalry were predominant.

Love Birds, diminutive Australasian parrots of various kinds, so named owing to the affection the male displays toward the female, whether caged or wild.

Love Feasts, religious meetings held quarterly by the Wesleyan and other sects, owing their origin directly or indirectly to the labors of Wesley. None but members of the Church are admitted, except by the permission of the minister.

Lovejoy, Elijah Parish, an American abolitionist; born in Albion, Me., Nov. 9, 1802. He took editorial charge of the "Observer," a religious weekly published at St. Louis, Mo., and, first a believer in colonization, he gradually became strongly anti-slavery, though always opposing immediate and unconditional abolition. His articles created great excitement, and when his office was finally wrecked

by the mob in 1836 he decided to remove his paper to Alton, Ill. Here three presses were destroyed by mobs. The fourth press was placed in a stone warehouse which Lovejoy and some of his friends defended. The house was surrounded by a mob and the roof set on fire. In attempting to sally Lovejoy was shot and killed, Nov. 7, 1837. A monument was erected to his memory at Alton in 1897.

Lovelace, Richard, an English Cavalier poet; born in Woolwich, England, in 1618. His name survives from two of the most faultless lyrics in the English language—"To Althea from Prison" and "To Lucasta on going to the Wars." He died in London, England, in 1658.

Lover, Samuel, an Irish novelist; born in Dublin, Ireland, Feb. 24, 1797. In 1847 he visited the United States, returning to England in the following year. In 1858 appeared his "Lyrics of Ireland." He died in St. Heliers, Jersey, July 6, 1868.

Low, Seth, an American educator; born in Brooklyn, N. Y., Jan. 18, 1850; was graduated at Columbia University in 1870; made a member of his father's mercantile firm in 1875; mayor of Brooklyn in 1881-1885; and was elected president of Columbia University in 1890. In 1895 he erected for that institution a grand university library at a cost of \$1,175,000. In honor of President Low's generosity and in accord with his desire, the trustees of Columbia founded 12 scholarships in the university for Brooklyn boys and the same number in Barnard College for Brooklyn girls, and also agreed to found eight annual scholarships. In 1899 he was appointed by President McKinley a member of the delegation to represent the United States at the International Peace Conference at The Hague. Mr. Low was an unsuccessful candidate for mayor of Greater New York in 1897; and was again nominated for the office on a fusion ticket in 1901. He was elected after a hard-fought campaign, and was again candidate on the fusion ticket in 1903 but was defeated. Died, 1916.

Lowe, John, an American naval officer; born in Liverpool, England, Dec. 11, 1838; entered the navy in 1861, served through the Civil War,

and was a member of the Greely Relief Expedition in 1884. He was the first naval officer of any nation to serve in a submarine torped boat. He was promoted rear-admiral Dec. 11, 1900, and retired the same day.

Lowe, Thaddeus S. C., an American scientist; born in Jefferson, N. H., Aug. 20, 1832. During the Civil War he was chief of the aeronautic corps. He established the Lowe Observatory in the Sierra Madre Mountains, Cal. Died Jan. 16, 1913.

Lowell, city and capital of Middlesex county, Mass.; at junction of the Merrimac and Concord rivers and on the Boston & Maine and other railroads; 25 miles N. W. of Boston; has unusually large water-power from the falls of the Merrimac that is utilized in extensive factories; is the leading American city in output of cotton goods, and has manufactories of woolen goods, boots and shoes, and medicine; and is the seat of a State Normal School, the Lowell Textile School, Rogers Hall School, St. John's and Lowell hospitals, St. Peter's and Edsen orphanages, and Old Ladies' Home. Pop. (1920) 112,479; (1930) 100,234.

Lowell, Abbott Lawrence, an American educator; born in Boston, Mass., Dec. 13, 1856; practiced law in Boston in 1880-1897; lecturer at Harvard University in 1897-1899, Professor of the Science of Government in 1900-1903, Eaton professor in 1903-1909, and president from latter date; author of numerous works on government, politics, etc.

Lowell, Edward Jackson, an American historian; born in Boston, Mass., Oct. 18, 1845. He was the author of "The Hessians and Other German Auxiliaries of Great Britain in the Revolutionary War." D. 1894.

Lowell, Francis Cabot, an American merchant; born in Newburyport, Mass., April 7, 1775. He acquired celebrity as a pioneer cotton manufacturer, and also as the founder of the town which bears his name. He died in Boston, Mass., Sept. 2, 1817.

Lowell, James Russell, an American author; born in Cambridge, Mass., Feb. 22, 1819; was graduated at Harvard College in 1838; became an abolitionist and in his famous "Biglow Papers" and other writings

did much to make the movement popular. In 1855 he was appointed successor to Longfellow as Professor of Belles-Lettres in Harvard University, and after two years' study abroad he entered upon the duties of his professorate. In 1863 he became one of the editors of the "North American Review," a position which he maintained till 1872. At the outbreak of the Civil War the poet again attacked the slavery party in a second series of "Biglow Papers," which appeared from time to time in the "Atlantic Monthly," and were published in a volume in 1867. In 1869 he published "The Cathedral," a poem of some length. This was followed by two volumes of essays, "Among My Books" (1870) and "My Study Windows" (1871). In 1872 he visited Europe, and on his return he wrote the "Centennial Ode." He was United States minister to Spain in 1877-1880 and to Great Britain in 1880-1885. During his residence in London he was elected Lord Rector of St. Andrew's University in Edinburgh. He died in Cambridge, Mass., Aug. 12, 1891.

Lowell, John, an American statesman; born in Newburyport, Mass., June 17, 1743. He was graduated at Harvard College in 1760, and became a member of the convention which framed the constitution of Massachusetts, in 1780. In 1781 he entered Congress, and in 1801 was appointed Chief Justice of Massachusetts. He died in Roxbury, Mass., May 6, 1802.

Lowell, John, an American merchant; son of F. C. Lowell; born in Boston, Mass., May 11, 1799. He founded the Lowell institute in that city, bequeathing \$250,000 for its maintenance. He died in Bombay, India, March 4, 1836.

Lowell, Josephine Shaw, an American philanthropist; born in West Roxbury, Mass., Dec. 16, 1843. In 1863 she married Charles Russell Lowell. She was a commissioner of New York State Board of Charities, 1877-1889. Her husband was killed in the Civil War. She died Oct. 12, 1905.

Lowell, Maria (White), an American writer; wife of James Russell Lowell; born in Watertown, Mass., July 8, 1821. She died in Cambridge, Mass., Oct. 27, 1853.

Lowell, Percival, an American astronomer; born in Boston, Mass., March 13, 1855; was graduated from Harvard in 1876, and spent some time in Japan and Korea. He established the Lowell Observatory at Flagstaff, Ariz., in 1894.

Lowell, Robert Traill Spence, an American educator; brother of James Russell Lowell; born in Boston, Mass., Oct. 8, 1816. He was graduated at Harvard in 1833. He became in 1873 Professor of Latin in Union College, Schenectady, N. Y. He died in Schenectady, N. Y., Sept. 18, 1891.

Lower California, a peninsula on the Pacific coast of North America, extending about 750 miles S. of California; area 58,328 square miles; pop. 53,254. It belongs to Mexico and, with the exception of a few spots, is a sterile and unproductive region. Chief towns are La Paz, the capital, Loreto, and Rosario.

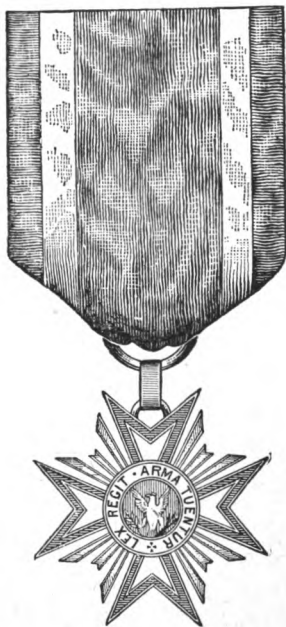
Lowry, Robert, an American composer; born in Philadelphia, Pa., March 12, 1826. His music and hymns met with popular approval. He edited: "Chapel Melodies" and other collections of sacred music. He died Nov. 25, 1899.

Low Sunday, in the Roman Catholic Church, the first Sunday after Easter.

Loyal Legion, Military Order of the, the first society formed by officers honorably discharged from the service of the United States in the Civil War. On the day after the assassination of President Lincoln, Col. S. B. Wylie Mitchell, Capt. Peter D. Keyser, M. D., and Lieut.-Col. T. Ellwood Zell met in Philadelphia to arrange for a meeting of ex-officers of the army and navy to adopt resolutions relative to the death of President Lincoln. It was decided to effect a permanent organization, and an adjourned meeting was held for this purpose in Philadelphia, May 3, 1865. Total membership of its three classes, 1916, over 7,000.

Loyola, Ignatius, original name Inigo Lopez de Recalde, a Spanish soldier and prelate, the founder of the Order of the Jesuits; born in the castle of Loyola, Guipuscoa, Spain, in 1491. When still a young man

he entered the army, and in 1521 he was severely wounded, and a long and tedious confinement was the result. The only books he found to relieve its tedium were books of devotion and the lives of saints. This course of reading induced a fit of mystical devotion in which he renounced the world, made a formal visit to the shrine of the Virgin at Montserrat, and vowed himself her knight (1522). After his dedication he made a pilgrimage to Rome and Jerusalem, and from 1524 to 1527 attended the schools and universities of Barcelona,



BADGE OF THE LOYAL LEGION.

Alcala, and Salamanca. In 1528 he went to Paris, where he went through a seven years' course of general and theological training. Here in 1534 he formed the first nucleus of the society which afterward became so famous. Rome ultimately became their headquarters, where Loyola continued to

Lozier

reside and govern the society he had constituted till his death, July 31, 1556. He was beatified in 1607 by Paul V., and canonized in 1622 by Gregory XV.

Lozier, Clemence Sophia, an American physician; born in Plainfield, N. J., Dec. 11, 1813. In 1829 she was married to A. W. Lozier, and in 1849 began the study of medicine, taking her degree in 1853 from the Syracuse Medical College. Establishing herself in New York as a homeopathic physician, she had remarkable success, showing rare surgical skill. In 1863 she started a movement resulting in the founding of the first medical college for women in the State. She was a prominent woman suffragist and active in reform and philanthropic movements. She died in New York city, April 26, 1888.

Lubbock, Sir John, (Lord Avebury), scientist and politician; born in London, England, April 30, 1834. He joined his father's banking business in 1848; became a partner in 1856; entered Parliament in 1870 as member for Maidstone; after 1880 represented London University. He was raised to the peerage as Lord Avebury in 1900. He was also distinguished as a man of science, being author of "Prehistoric Times," "Origin and Metamorphoses of Insects;" "The Origin of Civilization and the Primitive Condition of Man." Died, 1913.

Lublin, the third most important town of Republic of Poland, 109 m. S. E. of Warsaw; is chiefly engaged in the manufacture of thread-yarn, linen, hempen goods, and woolen fabrics. It was in existence as early as the 10th century; was frequently destroyed by the Tartars in the 13th century and by the Cossacks in the 15th; and was taken by the Russians in 1831. In the World War Lublin was evacuated by the Russians and occupied by the Austrians, July 31, 1915. Pop. (1923) 94,478.

Lucan (Marcus Annæus Lucanus), a Latin poet; nephew of Seneca; born in Cordova, Spain, in A. D. 39. His uncle introduced him to the court of Nero, and for a time he was a favorite; but Nero envied his poetic talents and banished him from court. He died in Rome in A. D. 65.

Lucknow

Luce, Stephen Bleecker, an American naval officer; born in Albany, N. Y., March 25, 1827; served on the Pacific Coast in the Mexican War; was promoted rear-admiral in 1885; was retired the same year. He was naval editor of the "Standard Dictionary" and author of "Seamanship" (text-book at the U. S. Naval Academy. He died July 28, 1917.

Lucerne, Lake of, one of the most beautiful lakes of Switzerland; area, 44 square miles.

Luchaire, Achille, a French historian; born in Paris, France, Oct. 24, 1846. He held professorships at Pau, Bordeaux, and Paris, where he occupied the chair of mediæval history in the Faculty of Letters. He is an authority on the institutions of France in the Feudal Period. In 1891 he received the Legion of Honor. D. 1908.

Lucianus, a Greek author, distinguished for his ingenuity and wit; born in Samosata, Syria, about 120 A. D. He died about 200.

Lucifer, the morning star. A name given to the planet Venus when she appears in the morning before sunrise. When Venus follows the sun, or appears in the evening, she is called Hesperus, the evening star. These names no longer occur except in the old poets. Also a name commonly, though unappropriately, given to the prince of darkness; Satan. Also a term originally applied to matches tipped with a mixture of chlorate of potash and sulphuret of antimony, which were inflamed by friction on a piece of emery paper.

Lucilius, a Roman poet, the creator of that form of poetic satire which was wielded so brilliantly by his successors, Horace, Persius, and Juvenal; born in Suessa Aurunca, Campania, about 180 B. C. He died in Naples, 103 B. C.

Lucius III., Pope (1181-1185). He was the first Pope elected solely by the cardinals, in consequence of which his reign was very turbulent. He died an exile in Verona in 1185.

Lucknow, a city of Hindustan, capital of the former kingdom of Oude, on the Goomtee, a tributary of the Ganges, 150 miles N. W. of Benares, and 265 S. E. of Delhi. Lucknow is remarkable for the defense made by

300 British soldiers while besieged in the residency of the city for four months in 1857 during the Sepoy rebellion. Pop. (1921) 240,566.

Lucretius, Titus Carus, one of the greatest Roman poets; born in Rome, probably about 96 B. C. He died Oct. 15, 55 B. C.

Lucullus, Lucius Licinius, a Roman consul and commander, celebrated for his military talents and luxurious style of living; born about 115 B. C. He was in great favor with the dictator Sulla, who made him guardian to his son and editor of his "Commentaries." In 74 B. C. he obtained the consulship. In 71 B. C. he finally broke up the hostile army, and Mithridates himself sought protection in Armenia, where Tigranes refusing to surrender him to the Romans, Lucullus attacked that monarch, and completely subdued him. On an occasion of a mutiny of his soldiers he was deprived of the chief command and recalled. From this time Lucullus remained a private individual. He died about 57 B. C.

Lucy, Sir Henry W., an English journalist; born near Liverpool, Dec. 5, 1845. After provincial experience he went to London in 1868, joined the "Daily News," and made a name as "Toby, M. P." in "Punch."

Luders, Charles Henry, an American poet; born in Philadelphia, Pa., in 1858. He died there, July 12, 1891.

Ludlow, a market-town and municipal borough of Shropshire, England, at the Grove's influx to the Teme, 28 miles S. of Shrewsbury. It is a very old and interesting place, with noble monuments of antiquity; the massive Norman keep, 110 feet high, of the castle, where Prince Arthur wedded Catharine of Aragon, and died less than five months afterward; where, in the banqueting-hall, Milton produced his "Comus," and where Butler wrote "Hudibras;" it was dismantled in 1689. Pop. (Est.) 6,000.

Ludlow, Edmund, an English republican; born in Maiden Bradley, Wiltshire, England, in 1617. He died in Switzerland in 1692. Ludlow's "Memoirs" is one of the best contemporary sources of knowledge we possess.

Ludlow, Fitzhugh, an American journalist; born in Poughkeepsie, N. Y., Sept. 11, 1836. He received his education at Union College. He was editor of "Vanity Fair" from 1858 to 1860, and also wrote for the "World" and "Evening Post," besides contributing frequently to "Harper's Monthly." He died in Geneva, Switzerland, Sept. 12, 1870.

Ludlow, James Meeker, an American author; born in Elizabeth, N. J., March 15, 1841. He was pastor of the Munn Ave. Presby. Church, East Orange, N. J., in 1886-1909.

Ludlow Street Jail. A well-known prison in New York city, for the confinement of prisoners held under civil writs issued from the State Courts, and of prisoners held on criminal charges for examination or trial in the United States Courts; also for persons held under extradition proceedings at the instance of foreign governments.

Ludlow, William, an American military officer; born in Islip, L. I., Nov. 27, 1843; was graduated at the United States Naval Academy and appointed a 1st lieutenant in the Engineer Corps in 1864; served through the remainder of the war; was president of the United States Nicaragua Canal Commission in 1895; commissioned Brigadier-General of volunteers and was made chief engineer of the army destined for Cuba in May, 1898. During the Santiago campaign he commanded the 1st Brigade, 2d Division, of the American army, and participated in the battles of El Caney and San Juan Hill. He was promoted Major-General of volunteers, Sept. 7, 1898; was military governor of Havana from Dec. 12, 1898, to May 1, 1900; promoted Brigadier-General, U. S. A., Jan. 21, 1900; and appointed president of the War College Board, May 1, 1900. He died Aug. 30, 1901.

Ludwig, Karl, a German physiologist; born in Witzenhausen, Hesse, Dec. 29, 1816. Some of his works were of fundamental importance for medical science and natural history. He died in Leipsic, April 24, 1895.

Ludwig, Salvator, Archduke, an Austrian explorer; born in Florence, Aug. 4, 1847. His principal writings, dealing with travel, are all

illustrated by himself and most of them published anonymously.

Lugano, Lake of, also called Ceresio, a sheet of water at the S. foot of the Alps, 889 feet above sea-level; length, $14\frac{1}{2}$ miles; average breadth, $1\frac{1}{4}$ miles; area, $18\frac{1}{2}$ square miles.

Lugger, a small vessel, carrying two or three masts with a lugsail on each, and a running bowsprit, on which are set two or three jibs.

Lugsail, a four-cornered sail bent to a yard, which is slung at a point two-thirds of its length from the peak.

Luini, or Luino, Bernardino, the best painter of the Milan school; is supposed to have been born in the village of Luino near Lake Maggiore, about 1470; but it is only known for certain that his works were mostly executed between 1520 and 1530.

Luitprand, a Lombard historian; born in Pavia early in the 10th century. He wrote the history of the affairs of Europe in his time, and other works valuable for their historical information. He died about 970.

Luke, a New Testament evangelist. The Gospel according to St. Luke, in the New Testament canon, the third Gospel. The writer had his information from those who "from the beginning were eyewitnesses and ministers of the word" implying that he was not himself an eyewitness of the events that he records. When speaking of diseases, there is a technical accuracy, greater than that exhibited by the other evangelists. Universal tradition considers that the Gospel was penned under divine inspiration by St. Luke, "the beloved physician."

From the introduction to the Acts of the Apostles, and from the style of the book, it is inferred that Luke was the author of that work also. The use of the first person in several passages of that narrative, implies that he was Paul's traveling companion in one of his journeys, and from II Timothy 4:11 we learn that he attended Paul in prison.

Lukens, Henry Clay, pseudonym Erratic Enrique, an American journalist and author; born in Philadelphia, Pa., Aug. 18, 1838. In 1884 he was associate editor of the New York "Daily News," and subsequently editor of the "Journalist," New York.

Lumbago, rheumatism of the muscles of the loins, with sudden and severe pain, sometimes extending to the ligaments underneath the muscles.

Lumber Industry. Lumber or timber sawn up for market, including deals, planks, laths, shingles, etc., has become one of the most important of the world's industries, and in the United States is a continually increasing branch of trade. In 1914 the Bureau of the Census reported 27,249 plants engaged in the lumber and timber industry, employing \$917,222,000 capital and 480,207 wage-earners, paying \$282,285,000 for raw material and \$240,172,000 for wages, and yielding products, including pulp wood, valued at \$715,942,000. There were also 6,061 plants turning out planing-mill products as distinct from saw mills, having \$276,159,000 capital and 99,408 wage-earners, paying \$188,488,000 for raw material and \$63,843,000 for wages, and yielding products valued at \$316,840,000. The annual timber cut is over 22,000,000,000 cubic feet, valued at about \$1,375,000,000.

Nearly all of the formerly waste products of lumber and timber are now turned to some utility and some of the new products thus formed are of considerable value. Of this latter class may be mentioned sawdust. French cabinet makers have found a way of preparing this material which gives it a value far above that of solid timber by a process combining the use of the hydraulic press and the application of intense heat. By this process the particles of sawdust are formed into a solid mass capable of being molded into any shape and of receiving a brilliant polish and possessing a durability and a beauty of appearance not found in ebony, rosewood or mahogany. This product is known as "bois durci."

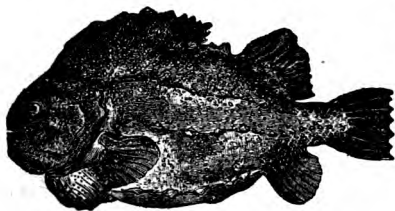
The utilization of wood pulp in the manufacture of paper is not new, but its increased use is very marked.

Near Breslau, in Silesia, there have been erected factories that convert the pine leaves into what is called "forest wool" for wadding and for manufacture into hygienic fabrics for medical use and for articles of dress, such as inner vests, drawers, shirts. In the preparation of the textile material an ethereal oil is produced which

is employed as a curative agent and oftentimes as a useful solvent. Some attempt has been made in Oregon to make use of these leaflets by reducing them to a fibrous condition suitable for mixing with cotton to be spun into yarn for weaving.

Lummis, Charles Fletcher, an American author; born in Lynn, Mass., March 1, 1859. He was a resident of Los Angeles, Cal. He is devoted to the archaeology and history of the aboriginal tribes of the Southwest. He died Nov. 25, 1928.

Lump Fish, or **Sucker**, named from the clumsiness of its form. The back is arched and sharp, the belly flat, the body covered with numerous bony tubercles, the ventral fins modi-



LUMP FISH.

fied into a sucker, by means of which it adheres with great force to any substance to which it applies itself. It frequents the N. seas.

Luna, Antonio, a Filipino insurgent; born in Manila, Philippine Islands, about 1854; was educated in Europe; returned to Manila early in 1898; became editor of "La Independencia"; and was the first Minister of War in the so-called government of Aguinaldo. Later he was placed in command of the Filipino insurgents with the rank of general. He was killed presumably by the guards of Aguinaldo, who, fearing that Luna might attempt to assassinate him, gave orders to his bodyguard to kill any one regardless of his rank who should try to enter his headquarters. Luna endeavored to pass this guard and was shot dead, June 8, 1899.

Luna, the Latin name for the moon, among the Greeks Selene. Her worship is said to have been introduced

among the Romans in the time of Romulus.

Lunar Tables, in astronomy, ponderous volumes of solid figures which are the numerical development and tabulation of some analytical theory of the moon's motions and perturbations. From these are constructed the annual ephemerides of the moon's hourly position, one of the principal features of a nautical almanac.

Lunar Theory, in astronomy, the deduction of the moon's motion from the law of gravitation.

Lundy, Benjamin, an American abolitionist; born in Hardwick, N. J., Jan. 4, 1789. In 1821 he founded the monthly "Genius of Universal Emancipation," which was published under difficulties for some years. He started in Philadelphia a weekly anti-slavery journal, "The National Enquirer" (1836); and in 1839 was about to revive the "Genius of Universal Emancipation" when he died in Lowell, Ill., Aug. 22, 1839.

Lundy's Lane, a locality in the province of Ontario, near the Falls of Niagara. Here, July 25, 1814, an obstinate and indecisive engagement was fought between an American force, numbering 3,000 men, under General Brown, and a body of about 4,000 British troops commanded by General Drummond. The loss of the Americans was 743 men; that of the British 878 men.

Lungs, the sole breathing organs of reptiles, birds, mammals, and in part of amphibians (frogs, newts, etc.), the latter forms breathing in early life by branchiæ or gills and afterward partly or entirely by lungs.

The lungs are popularly termed "lights"; this from the reason that they are the lightest organs in the body and float when placed in water, except in diseased conditions, as after chronic inflammations, where the lung tissue becomes filled up with the product thrown out and exhibits a hepaticized or solid and liver-like structure, when it at once sinks. In the infant the lungs are of a light red color, but in adult life the lung tissue becomes more or less infiltrated with black matter, probably of carbonaceous nature, and which has been inhaled in the process of breathing.

Lungwort, a lichen growing on the trunks of trees in moist, sub-alpine countries. It is sometimes prescribed in diseases of the lungs, like Iceland moss. In Siberia it is used as a substitute for hops. Called also lungs of the oak.

Lunt, George, an American author; born in Newburyport, Mass., Dec. 31, 1803. During the Civil War he was associate editor, with George S. Hillard, of the Boston "Courier." He was a forceful, graceful writer. Died in Boston, Mass., May 17, 1885.

Lunt, William Parsons, an American clergyman; born in Newburyport, Mass., April 21, 1805. His writings are singularly felicitous in purity of taste and have been much admired. He died in Akabah, Arabia Petraea, March 20, 1857.

Lupercalia, a festival among the ancient Romans, held on Feb. 15, in honor of Lupercus, the god of fertility.

Lupine, a very extensive genus of hardy annual, perennial, and half-shrubby plants, some of which are cultivated in gardens for the sake of their gaily-colored flowers.

Lupus, a spreading tuberculous inflammation of the skin, generally of the face, tending to great destructive ulceration.

Luray Cavern, a cave, not large, but remarkable for the vast number and extraordinary shapes of its stalactites, close to Luray village, Va., 90 miles N. W. of Richmond.

Lurton, Horace Harmon, an American jurist; born in Newport, N. Y., Feb. 26, 1844; admitted to the bar in 1867; Chancellor of the Sixth Tennessee Division in 1875-1878; Associate Justice, Tennessee Supreme Court in 1886-1893, and Chief Justice toward end of term; U. S. Circuit Judge, Sixth Judicial Circuit, in 1893-1910; then Associate Justice, U. S. Supreme Court. In 1898-1910 he was also Professor of Constitutional Law, and, in 1905-10, Dean of the Law Department, at Vanderbilt University. He died July 12, 1914.

Lute, an instrument of the guitar family, formerly used for accompaniments and in solos, duets, etc.

Luther, Martin, a great religious reformer; born in Eisleben, Lower

Saxony, Nov. 10, 1483. He was educated in the deepest respect for religion. At the age of 14 he was sent to school at Magdeburg, whence he removed in 1498 to Eisenach. In 1501 he entered the University of Erfurt; in 1503 received the degree of Master and delivered lectures on the physics and ethics of Aristotle. About this time he discovered in the library of the university a Latin Bible and found to his no small delight that it contained more than the excerpts in common use. He was destined by his father to the law, but his more intimate acquaintance with the Bible, of which the clergymen of that time knew only the Gospels and Epistles, induced him to turn his attention to the study of divinity. Contrary to the wishes of his father he entered the monastery of the Augustines at Erfurt in 1505.

In 1507 he was consecrated priest, and in 1508 he was made Professor of Philosophy in the new University of Wittenberg. In 1510 he visited the court of Pope Leo X. at Rome on business connected with the order. This journey revealed to him the irreligion and corruption of the clergy at Rome and destroyed his reverence for the sanctity of the Pope. After his return he became a preacher at Wittenberg, and in 1512 he was made a Doctor in Theology. As such his oath bound him, as he thought, to the fearless defense of the Holy Scriptures. His profound learning, together with the fame of his eloquence, soon made Luther known to the principal scholars and esteemed as a powerful advocate of the new light which was breaking upon the world. Great, therefore, was the attention excited by his 95 propositions given to the world Oct. 31, 1517, and intended to put an end to the sale of indulgences by the Dominican Tetzel. His propositions were condemned as heretical as soon as they appeared.

In 1520 Luther and his friends were excommunicated. His writings were burned in Rome, Cologne, and Louvain. Indignant at this open act of hostility after his modest letter in which he had shown himself desirous of reconciliation, declared his submission to the Pope, and advised a reform in the Church. Luther burned the bull of excommunication and the decretals

of the papal canon at Wittenberg Dec. 10, 1520. By this act he dissolved all connection with the Pope and the Roman Church. A few months later he was summoned by the newly elected German Emperor, Charles V. (q. v.), before the Diet of Worms and resolved to go in spite of all the remonstrances of his friends. Before the emperor, the Archduke Ferdinand, 6 electors, 24 dukes, 7 margraves, 30 bishops and prelates, and many princes, counts, lords, and ambassadors, Luther appeared, April 17, in the Imperial Diet, acknowledged all his writings, and on the following day made his defense before the assembly. He concluded his speech of two hours in length with these words: "Let me then be refuted and convinced by the testimony of the Scriptures, or by the clearest arguments, otherwise I cannot and will not recant, for it is neither safe nor expedient to act against conscience. Here I take my stand; I can do no otherwise, so help me God! Amen." He left Worms in fact a conqueror; but it was so manifest that his enemies were determined on his destruction that Frederick the Wise conveyed him privately to the Wartburg to save his life. Neither the proscription of the emperor nor the excommunication of the Pope could disturb him in his retirement, of which he took advantage to translate the New Testament into German. But this retirement continued only 10 months. When informed of the disturbances excited by Carlstadt on the subject of images he could no longer endure restraint. He hastened to Wittenberg, and the sermons which he delivered for eight successive days after his return (in March, 1522) to quell the violence of the enraged insurgents in Wittenberg are patterns of moderation and wisdom and popular eloquence.

Amidst these disputes and attacks his plans for a total reformation in the Church, which was called for by the voice of the nation, were matured. In 1523 at Wittenberg he began to purify the liturgy from its empty forms and by laying aside his cowl, in 1524 he gave the signal for the abolition of the monasteries and the better application of the goods of the Church. In 1525 he married Katharina von Bora, a nun who had left her convent.

Luther prepared from 1526 to 1529 a new Church service corresponding to the doctrines of the Gospel, under the patronage of the elector and with the aid of Melancthon and other members of the Saxon Church. His larger and smaller catechisms to be used in schools were also of great service. But everyone must look with pain on the severity and intolerance which he manifested toward the Swiss reformers because their views differed from his own in regard to the Lord's Supper. He was thus the chief cause of the separation which took place between the Calvinists and the Lutherans. But without his inflexible firmness in matters of faith he would have been unequal to a work against which artifice and power had arrayed all their forces.

The rapidity with which the Reformation advanced after the Confession of Augsburg in 1530 rendered the papal bulls and the imperial edicts against Luther inefficient. But he was obliged to be continually on his guard against the cunning of those who strove to make him give up some parts of his creed, and it required a firmness bordering on sternness and obstinacy to maintain the victory which he had won.

No one can behold without astonishment his unwearied activity and zeal. The work of translating the Bible, which might well occupy a whole life, he completed with some assistance from Melancthon and other friends from 1521 to 1534, and thus rendered his name immortal. This translation bears the same relation in Germany as the Authorized Version does elsewhere to the religious life and literature of the people. He equalled the most prolific authors in the number of his treatises on the most important doctrines of his creed. After the year 1512 he preached several times every week and at certain periods every day; he officiated at the confessional and the altar; he carried on an extensive correspondence in Latin and German on various subjects with men of rank and of distinguished literary attainments and with his private friends, and notwithstanding all this press of occupation he allowed himself some hours every day for meditation and prayer and was always accessible to visitors. He gave advice and assistance wher-

ever it was needed, and interested himself for every indigent person who applied to him. In company he was always lively and abounded in sallies of wit and good humor, preserved in his "Tischreden" ("Table-talk"); and he was temperate in his enjoyments. Luther was no stranger to the elegant arts. His excellent hymns ("Ein feste Burg," "Aus tiefer Noth," etc.) are well known. His fondness for music, too, was such that as often as circumstances permitted he would relax his mind with musical composition, singing, and playing on the flute and lute.

On the 18th of February, 1546, Luther died in Eisleben, and he was buried in the castle church of Wittenberg. He left a wife whom he tenderly loved and four children (two others having previously died) in straitened circumstances. His wife died in 1552. Against his will his adherents styled themselves Lutherans; against his will they engaged in a war which broke out immediately after his death and desolated Germany. As long as he lived Luther was for peace and he succeeded in maintaining it; he regarded it as impious to seek to establish the cause of God by force; and in fact during 30 years of his life the principles of the Reformation gained a firmer footing and were more widely propagated by his unshaken faith and unwearied endeavors than by all the wars, treaties, and councils.

Lutherans, a designation originally applied by their adversaries to the Reformers of the 16th century, and afterward appropriated among Protestants themselves to those who took part with Martin Luther against the Swiss Reformers, particularly in the controversies regarding the Lord's Supper. It is so employed to this day as the designation of one of the two great sections into which the Protestant Church was divided, the other being known as the Reformed Church.

Lutheranism is the prevailing form of Protestantism in Germany; it is the national religion of Denmark, Sweden, and Norway; and there are Lutheran Churches in the Baltic provinces of Russia, in Holland, France, Poland, and the United States. In all there are about 70,000,000 Lutherans. Among the Lutheran sym-

bolic books the "Augsburg Confession," Luther's "Shorter Catechism," and the "Formula Concordiæ" ("Formula of Harmony") hold the principal place. The chief difference between the Lutherans and the Reformed is as to the real presence of Christ in the sacrament of the Supper; the Lutherans reject consubstantiation and transubstantiation, and teach that the elements are sacramentally united with the body or blood, not amalgamated or confused; while some of their more extreme theologians have asserted not only the presence of the human nature of Christ in the Lord's Supper, as Luther did, but the absolute omnipresence or ubiquity of His human nature. Other points of difference relate to the allowance in Christian worship of things indifferent; and many of those things at first retained as merely tolerable by Luther and his fellow-reformers have become favorite characteristics of some of the Lutheran Churches—as crucifixes and pictures in places of worship, etc.

In its constitution the Lutheran Church is generally unepiscopal without being properly presbyterian. It is consistorial, with the civil authorities so far in place of bishops. In Denmark, Sweden, and Norway there are bishops, and in Sweden an archbishop (of Upsala), but their powers are very limited. In the United States there were (1926) 22 Lutheran bodies, with 19,854 churches, and with some 5,168,623 communicants and over \$75,000,000 property.

Lutzen, a small town in the Prussian province of Saxony, famous for two great battles fought in its vicinity. The first, a brilliant victory of the Swedes in the Thirty Years' War, took place Nov. 6, 1632. The battle on May 2, 1813, was fought somewhat farther to the S., at the village of Grosboschen. It was the first great conflict of the united Russian and Prussian army with the army of Napoleon in that decisive campaign; and the French were left in possession of the field.

Luxemburg, a grand-duchy and province of Western Europe; bounded on the N. by the Belgian province of Liege, on the W. by that of Nassau, on the E. by Rhenish Prussia, and on the S. by France. It is 998 square

miles in extent, with a pop. in (1926) of 268,865. It is a neutral, independent State, its neutrality being guaranteed by the European powers. The Belgian province of Luxemburg, adjoining the grand-duchy, is 1,706 square miles in area and had an estimated pop. (1922) of 260,767. This territory was occupied by the Germans, Aug. 2, 1914.

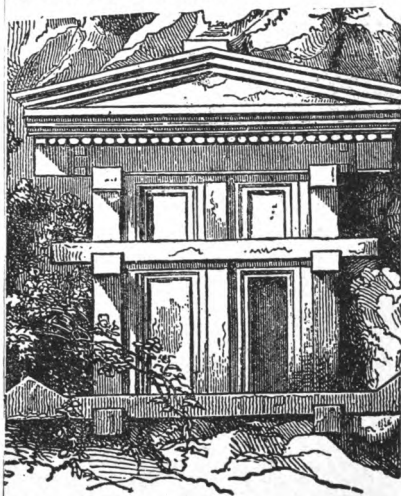
Luzon, the principal island of the Philippines; area, 40,969 square miles; pop. (1922 Est.) 4,000,000, of whom 223,506 were reported wild. The surface is mountainous, showing volcanic formations, and there are also vast tracts of swampy land. There are also indications of mineral resources, including gold, coal, copper, lead, iron, sulphur, marble, and kaolin. The best quality and largest amount of tobacco is grown on Luzon, and in the S. portion of the island hemp and cocoanut are cultivated extensively. At the time of the cession of the islands to the United States, there was but a single line of railway, extending from Manila N. to Dagupan. The roads in the immediate vicinity of Manila are macadamized and generally in good condition; elsewhere they are of dirt and become almost impassable in the rainy season. The different provinces of the island are connected with Manila by telegraph, and there are cables from that city to the S. islands in the group, and also to Borneo, Singapore, and Hong Kong. Manila has a street railway, a telephone service, and electric lights.

The Philippine Commission appointed by President McKinley became the legislative body of the archipelago on Sept. 1, 1900, with power to take and appropriate insular moneys; to establish judicial and educational systems; and to make and execute all laws necessary to Americanize the archipelago. The early results of this new governing body were seen in the establishment of new school laws; in the organization of a competent judiciary; in the improvement in the different provinces of Luzon, as well as in the other islands of the group. The new public school law is modelled on the methods pursued in the United States. The general superintendent of education and a considerable number of teachers are from the United States. At the close of 1900 there

were 36 public schools in Manila alone. On June 29, 1900, a college of primary and secondary education was opened in Manila, being the first educational enterprise in the Philippines that was not under the control of the priests, and that depended for support on voluntary contributions. Over 500 pupils were enrolled at the opening.

Lyall, Edna, pen-name of ADA ELLEN BAYLY, English novelist; born about 1859; died Feb. 9, 1903. She wrote "Derrick Vaughan," etc.

Lycanthropy, or **Lykanthropy**, from the Greek *lykos*, a wolf, *anthropos*, a man, a species of erratic melancholy or madness in which the patient imagines himself a wolf, and acts accordingly. The term sprung from the ancient widely spread belief that certain men, by natural gift or magic could transform themselves into ravening wild beasts.



LYCIAN TOMB.

Lyceum, the name of an academy at Athens, so called from its position near the temple of Apollo Lyceus. Here Aristotle and his disciples taught, and were called Peripatetics, from their habit of walking up and down its porches while delivering their lectures. In the present day, in France, the

name is given to preparatory schools for the universities, as in them the Aristotelian philosophy was formerly taught. In the United States the name is applied to a literary association designed for the object of mutual improvement.

Lycia, in ancient geography, a country on the S. coast of Asia Minor, extending toward Mount Taurus, and bounded on the W. by Caria, on the N. by Phrygia and Pisidia, and on the E. by Pamphylia. Many monuments and ruined buildings, exquisite sculptures, coins, and other antiquities, testify to the attainments of the Lycians in civilization and the arts, in which they rivalled the Greeks themselves.

Lycurgus, the lawgiver of Sparta; usually dated about 820 B. C. He was uncle of the young King Charilaos, and governed the states wisely during his nephew's infancy, then traveled over Crete, Ionia, and Egypt, and on his return, finding his country in complete anarchy, made a new division of property, and remodelled the whole constitution, military and civil. Next he bound the citizens by oath not to change his laws till he came back, and then left Sparta to be no more seen. His memory was honored as that of a god with a temple and yearly sacrifices.

Lydia, in ancient geography, a country of Asia Minor, celebrated for its fruitful soil, for its mineral wealth, particularly for the gold of the river Pactolus and of the neighboring mines, but was infamous for the corruption of morals which prevailed among its inhabitants, and especially in Sardis, its capital. Croesus, famed for his immense wealth, was one of its rulers.

Lyell, Sir Charles, a British geologist; born in Kinnordy, Forfarshire, Scotland, Nov. 14, 1797. He was educated at Oxford; resolved to devote his time and fortune to geological research. For this purpose he visited the United States and the continent of Europe. In his "Antiquity of Man" he summarized the evidence in favor of the theory that the race of man was much older than was currently believed. He died in London, England, Feb. 22, 1875.

Lyle, William, a Scottish poet; born in Edinburgh, Scotland, Nov. 17,

1822. After coming to the United States he resided in Rochester, N. Y. His poems are widely read in the United States and Canada.

Lyman, Azel Storrs, an American inventor; born in Potsdam, N. Y., in 1815. He was graduated at the Illinois University. It was his desire to become a clergyman, and he studied for some time with Dr. Albert Barnes; but an incurable deafness compelled him to relinquish his purpose. He afterward removed to New York. Here he prepared an historical chart which was adopted in many schools and colleges. Devoting himself to inventions, he made valuable discoveries in refrigeration and a new process of ventilation. His fiber gun for disintegrating wood for paper pulp is largely used. Among his later inventions was the multi-charge cannon known as the Lyman-Haskell gun. He died in 1885.

Lyman, Joseph Bardwell, an American agriculturist; born in Chester, Mass., Oct. 6, 1829. In 1867 he became agricultural editor of the New York "World." The following year he was editor of "Hearth and Home," and shortly after joined the staff of the "Tribune." He died in Richmond Hill, L. I., Jan. 23, 1872.

Lyman, Laura Elizabeth Baker, pseudonym Kate Hunnibee, an American journalist; born in Kent's Hill, Me., April 2, 1831. She became widely known from a series of articles which appeared in "Hearth and Home." She has edited the Home-Interest department of the New York "Tribune," and the "Dining-Room Magazine."

Lyman, Theodore, an American philanthropist; born in Boston, Mass., Feb. 20, 1792. He was graduated at Harvard College in 1810. He founded the State Reform School, to which he gave \$72,500. He died in Brookline, Mass., July 18, 1849.

Lymph, the fluid resulting primarily from the assimilation of food, and also obtained from the blood and tissues, and which is contained within a system of vessels ramifying throughout the bodies of vertebrates. To these vessels the names of lymphatics and lacteals are applied. The lymph as it exists in the lymphatic vessels is a colorless, transparent, and odorless fluid.

Lynch, Charles, a Virginia planter; born in 1736. He was a Revolutionary soldier, and after the war took up his residence in Pittsylvania co., Va. The region in which he lived became at one period of the Revolution infested by bands of Tories and outlaws; deserters from both armies added strength and a semblance of organization to their operations. Wherever they appeared the terror-stricken inhabitants were plundered, harassed, and mercilessly subjected to every variety of insult and outrage. Colonel Lynch succeeded in organizing a body of patriotic citizens, men of known character and standing. At the head of his followers he pursued the enemy, captured many and caused the others to flee from the country. When any of these outlaws fell into his hands, a jury was selected from Lynch's men, over which he presided as judge; the accused allowed to make his own defense, and to show cause, if he could, why he should not be punished. If found guilty the punishment was inflicted on the spot. He died in 1796.

Lynchburg, an independent city of Virginia; on the James river and canal and the Chesapeake & Ohio and other railroads; 124 miles S. W. of Richmond; is one of the greatest tobacco marts in the country, with large output in every form; also manufactures cotton goods, iron pipe, castings, and plows; has iron and valuable quarries nearby; and city and vicinity contain the Miller Orphan Asylum, Lynchburg College, Randolph-Macon Woman's College, Virginia Theological Seminary and colleges. Pop. (1930) 40,661.

Lynch Law, punishment, especially capital, inflicted by private individuals, independently of the legal authorities. The origin of the term is doubtful; by some it is said to be from James Lynch Fitz-Stephen, warden of Galway, Ireland, who, about 1526, sentenced his son to death for murder, and to prevent a rescue by a mob, executed him with his own hands without due process of law. By others the term is said to have originated from Charles Lynch (see above). At first in the United States, "lynch law" was not mob law.

Lyndhurst, John Singleton Copley, Baron, an English states-

man; born in Boston, Mass., May 21, 1772. Intended by his father, J. S. Copley, the artist, to be a painter, he studied for some time under Reynolds and Barry, then entered the University of Cambridge, England, in 1791, took his M. A. degree in 1797, and was called to the bar at Lincoln's Inn. In 1817 he was appointed chief-justice for Chester, and in 1818 entered Parliament. In 1819 he became solicitor-general in the Liverpool administration, in 1824 attorney-general, and in 1826 master of the rolls. He was raised to the peerage as Baron Lyndhurst, and became lord-chancellor in 1827. He died in England, 1863.

Lyne, Joseph Lycester, called Father Ignatius and Ignatius of Jesus, an English clergyman and religious writer; born in London, England, Nov. 23, 1837. He was a mission curate in London, but withdrew to begin the attempt of restoring monasticism in the Church of England. He built Llanthony Abbey in Wales, and established there a community of monks.

Lynn, a city in Essex county, Mass.; on Massachusetts bay and the Boston & Maine and other railroads; 10 miles N. E. of Boston; has a noted natural park of 2,000 acres; and is chiefly engaged in manufacturing boots and shoes, pearl buttons, leather goods, and electrical appliances, with an annual output valued at about \$60,000,000. Pop. (1920) 99,148; (1930) 102,320.

Lyoff, Prince George E., a Russian statesman; born about 1867; member of one of the oldest Russian families; acquired a university education; became head of the Tula Zemstvo in 1893; personally conducted sanitary and food stations in Manchuria during the Russo-Japanese War; declined high court honors after the war; became head of the National Zemstvo Committee in August, 1914; and after the overthrow of the Czar's Government, in March, 1917, was made Prime Minister of the new Provisional Government. He is an aristocrat by birth, a democrat in spirit.

Lyon, Nathaniel, an American military officer; born in Ashford, Conn., July 14, 1818. He was graduated at the United States Military Academy in 1841 and saw active serv-

ice in the Mexican War in 1846-1847. In 1861, at the breaking out of the Civil War he was in command of the United States arsenal at St. Louis, Mo. In June of that year he was appointed to the command of the military department of Missouri, and on the 17th defeated the Confederates at Boonville. He was killed at the battle of Wilson's Creek, Aug. 10, 1861.

Lyons, a city of France, capital of the department Rhone, and the second of the republic in population, situated chiefly on the peninsula between the rivers Rhone and Saone, 245 miles S. E. of Paris; is the great warehouse of the S. of France and of Switzerland; principal manufacture silk stuffs, giving employment directly or indirectly to 100,000 hands. The cathedral and Church of St. Nizier, the Hotel de Ville (town hall), the finest edifice of the kind in the country, the hospital, the public library, and the Palais des Beaux Arts, are the most notable among numerous institutions. There are also a university-academy, an imperial veterinary school—the first founded in the country, and still the best—schools for agriculture, medicine, etc. The two rivers are crossed by 19 bridges; 12 over the Saone, and 7 over the Rhone. The quays, 28 in number, are said to be the most remarkable in Europe. There are several large and important suburbs; several fine squares, of which the Place Bellecour is one of the largest in Europe. Lyons, the ancient Lugdunum, was founded about 42 years before the Christian era, and suffered greatly during the Revolution from the conflicts of hostile parties. It was the birthplace of Germanicus, the emperors Claudius, M. Aurelius, and Caracalla. Pop. (1926) 564,566.

Lyons, Richard Bickerton Pemell, Lord, an English diplomatist; born in Lymington, England, April 26, 1817. He was educated at Winchester and Christ Church, Oxford, and in 1839 was appointed attache at Athens. In 1858 he was appointed envoy to Tuscany, and in December of the same year he was accredited to Washington as envoy extraordinary to the United States. It was in this position that he first came prominently before the world as a diplomat. He died in London, England, Dec. 5, 1887.

Lyre, one of the oldest forms of stringed instrument. It was introduced into Egypt from Palestine during the 18th dynasty, and was common among the Greeks even in the heroic times. Most of the barbarians who invaded the Roman empire were acquainted with the lyre, and must have independently attained the knowledge of it. Its sounds can be no more in number than its strings. Consequently, since the rise of the modern scale, the lyre, whose strings were originally seven in number and subsequently increased to 16, has been unable to cope with the growing exigencies of intricate music.

Lyre Bird, an insectivorous Australian bird. The lyre bird is not so large as a hen-pheasant. The 16 rectrices are developed in the male in the extraordinary fashion that gives the bird its English name. The two exterior have the outer web very narrow, and the inner very broad, and they curve at first outward, then somewhat inward, and near the tip outward again, bending round so as to present a lyre-like form. The middle pair of feathers have the outer web broad and the inner web very narrow; they cross near their base, and then diverge, bending round forward near the tip. The remaining 12 feathers are thinly furnished with barbs and present a hair-like appearance. The lyre-bird is becoming rare.

Lyric Poetry, originally poems intended to be sung to the accompaniment of the harp or lyre; now poems of sentiment and emotion.

Lysander, a Spartan naval and military commander; lived in the 4th century B. C. He fell in battle, 395 B. C.

Lysias, a general of Antiochus Epiphanes, King of Syria, who sent him against Judas Maccabæus, by whom he was surprised and defeated with the loss of 5,000 men. Lysias saved himself by flight, and, after the death of Epiphanes, returned to power, as regent, under Antiochus Eupator. He laid siege to Jerusalem; but learning that Philip, who disputed the regency with him, had taken possession of the capital of Syria, he raised the siege, marched against Philip, and defeated him. Both Eupator and himself were subsequently abandoned by their par-

tisans, and slain by their guards in 162 B. C.

Lysimachus, a general in the army of Alexander the Great; born in Macedonia 360 B. C. At the death of the emperor and the division of the empire he became king of Thrace. During the latter years of his reign he was instigated by his wife to kill his son Agathocles. This murder caused his subjects to rebel, and in the war which followed, Lysimachus was defeated and slain at the battle of Corus in B. C. 281.

Lysippus, a Greek sculptor who flourished in Sicyon about 330 B. C., in the time of Alexander the Great.

Lytle, William Haines, an American general and poet; born in Cincinnati, O., Nov. 2, 1826. He graduated at Cincinnati College and studied law. He was a captain in the Mexican War; and in the Civil War served as colonel in 1861, and later as brigadier-general of volunteers, having been promoted to that rank for gallant conduct. No complete collection of his works has been published. He was killed at the battle of Chickamauga, Tenn., Sept. 20, 1863.

Lythraceæ, the loosestrife tribe, a natural order of polypetalous exogens, containing about thirty genera of herbs, trees, and shrubs, of various habit, often with square branches; the leaves usually are opposite or whorled, entire, and shortly petiolate; the flowers being often large and showy. Henna and tulipwood belong to the order.

Lythrum, a genus of plants, the type of the order Lythraceæ (q. v.). *L. salicaria*, purple loosestrife, is a tall and handsome plant.

Lytton, Edward George Earle Lytton Bulwer-Lytton, Baron, English poet, author and statesman. He was the youngest son of General Bulwer of Woodalling, and Elizabeth Barbara Lytton of Knebworth, and was born in 1805; died 1873. He entered Trinity Hall, Cambridge, graduated B. A. in 1826, M. A. in 1835, and gained the chancellor's prize medal for his English poem on "Sculpture." He published poetry at an early age, but first gained reputation by the novels "Pelham" and "The Disowned" (1828), "Devereux" (1829), and

"Paul Clifford" (1830). These were followed up with the popular romances of "Eugene Aram," "The Pilgrims of the Rhine," "The Last Days of Pompeii," "Rienzi," and "Ernest Maltraversers," with its sequel "Alice." In connection with Macready's management at Covent Garden, Bulwer-Lytton produced his "Duchesse de la Valliere," which proved a failure, but this was retrieved by the instant success of the "Lady of Lyons," "Richelieu," and "Money." When he had thus shown his quick adaptability of talent he returned to novel-writing, and published in steady succession — "Night and Morning," "Zanoni," "The Last of the Barons," "Lucretia," "Harold," "The Caxtons," "My Novel," and "What will He do with It?" In 1845 he published a poetical satire called "The New Timon," in which he attacked Tennyson, who replied more vigorously than had probably been expected. He entered Parliament for St. Ives in 1831, and supported the Reform Bill as a Whig; but he changed his opinions and latterly supported the Conservatives. Under Lord Derby's ministry he was colonial secretary, and in 1866 entered the House of Lords as Baron Lytton. He was elected rector of Glasgow University in 1856. His later literary works were "The Coming Race," published anonymously (1871), "The Parisians" (1872), and "Kenelm Chillingly" (1873). Among his poetic works were the epic "King Arthur," the "Lost Tales of Miletus," "Brutus," a drama, etc.

Lytton, The Right Hon. Edward Robert Bulwer-Lytton, Earl of, G. C. B., son of the novelist and politician; was born in 1831; educated at Harrow and Bonn; entered the diplomatic service in 1849 as attaché at Washington, and successively served in the embassies of Florence, Paris, the Hague, St. Petersburg, Constantinople, Copenhagen, and Lisbon. He was appointed Viceroy of India by the government of Mr. Disraeli in 1876, and it was during his administration that the queen was proclaimed Empress of India. This post he resigned in 1880, being then created an earl. He early attained a certain reputation as a poet under the pen-name of "Owen Meredith." He died Nov. 24, 1891.

M



m, the 13th letter and the 10th consonant in the English alphabet, a labial, produced by a slight expiration with a compression of the lips. In Latin M signified 1,000; the original designation of this number was double D, which gradually became an M.

Maartens, Maarten, pen-name of J. M. M. VAN DER POORTEN-SCHWARTZ, a Dutch author; born in 1858. A cosmopolitan education in England, Germany, and Holland, led to his adoption of the English language as the vehicle of his successful moral novels, which include "The Sin of Joost Avelingh;" "God's Fool;" "The Greater Glory;" and "My Lady Nobody." He died Aug. 4, 1915.

Mabie, Hamilton Wright, an American editor; born in Cold Spring, N. Y., Dec. 13, 1845. He was graduated at Williams College, practised law for a time in New York city, and then entered journalism, becoming in 1879 associate editor of the "Christian Union," later the "Outlook;" author of books of essays, and a lecturer. He died Dec. 30, 1916.

Macadam, John Loudon, a Scotch engineer, inventor of the system of road-making known as "macadamizing;" born in Ayr, Scotland, Sept. 21, 1756; died Nov. 26, 1836.

McAdoo, William Gibbs, an American statesman; born near Marietta, Ga., Oct. 31, 1863; admitted to the bar in 1885; removed to New York to practice in 1892; and in 1901 engaged in the great tunnel constructions popularly known as the "McAdoo tubes," later becoming president of the company operating the railroads in them. On March 6, 1913, he was appointed Secretary of the Treasury in

President Wilson's Cabinet; continued in the second term; and married the President's daughter, Eleanor, May 7, 1914.

McAfee, Robert Breckinridge, an American historian; born in Mercer co., Ky., in February, 1784. He was United States charge d'affaires at Bogota, Colombia, 1833-1837; a member of the Royal Antiquarian Society of Denmark; and author of "History of the War of 1812." He died in 1849.

McAlester, city and capital of Pittsburg county, Okl.; in the former Choctaw Nation, Ind. Ter., and on the Chicago, Rock Island & Pacific and other railroads; 120 miles S. E. of Oklahoma City; is in a cotton, corn, and stock-raising section, but is chiefly engaged in mining coal. Pop. (1930) 11,804.

McAll Mission, the largest Protestant mission in France; founded in 1871 by the Rev. Robert Whitaker McAll (1822-1893) and his wife. It possesses more than 100 stations.

McAllister, Fort, a Confederate earthwork on the Ogeechee river, the capture of which by General Hazen, Dec. 13, 1864, was the closing feat of General Sherman's victorious march to the sea.

Macao, a seaport town and Portuguese settlement in China, on an island of the same name at the mouth of the Canton river, 40 m. from Hong Kong; pop. (Est.) 75,000. Here Camoens was exiled and composed "Lusiad."

Macaroni, or **Maccaroni**, an article of food composed of the dough of fine wheaten flour, made into long, slender tubes varying in diameter from one-eighth of an inch to an inch; it is a favorite food in Italy, and a taste

for it is very general in America. Macaronis, a body of soldiers from Maryland during the War of Independence, so called on account of their showy uniform.

MacArthur, Arthur, an American military officer; born in Massachusetts, June 1, 1845; enlisted in the volunteer service of the United States in Wisconsin, and was appointed 1st lieutenant of the 24th Wisconsin volunteers, Aug. 4, 1862; promoted major, Jan. 25, 1864; lieutenant-colonel and brevet-colonel in May, 1865, for gallant and meritorious conduct; and was mustered out of the volunteer service, June 10, 1865. After the Civil War he entered the regular army with the rank of lieutenant in the 17th United States Infantry; served bravely in Indian wars; in 1889 was promoted major. In the war against Spain he went to Mobile as one of General Wade's staff, but had been there only a short time when he was appointed a Brigadier-General of volunteers; commanded the third expedition, which left San Francisco, June 27, 1898; was promoted Major-General of volunteers; was promoted Brigadier-General in the regular army, Jan. 2, 1900; commander of the Military Division of the Philippines, promoted Major-General U. S. A., 1901, returned to the United States in the summer of 1901. In 1902 he had command of the land forces in the military and naval maneuvers along the Atlantic coast. He died Sept. 5, 1912.

MacArthur, Robert Stuart, an American Baptist clergyman; born in Dalesville, Quebec, Canada, July 31, 1841; was graduated at the University of Rochester (1867); at the Rochester Theological Seminary (1870); received the title of D. D. from Rochester Theological Seminary (1880); of LL. D. from Columbian University (1896). He was pastor of Calvary Baptist Church, New York, after 1870, and editor of the "Christian Inquirer" and the "Baptist Quarterly Review."

Macassar, a town on the island of Celebes, capital of the Dutch government of Celebes. It has an excellent harbor, and carries on a considerable trade in rice, spices, ebony, sandalwood, etc. Pop. (1920) 56,718.

Macassar, Straits of, between

Celebes and Borneo, about 350 miles long, and from 75 to 140 miles wide.

Macaulay, Thomas Babington, an English historian; born in Rothley Temple, Leicestershire, England, Oct. 25, 1800. He composed a compendium of universal history before he was eight years old; went to school at Shelford and entered Cambridge in 1818. In 1826 he was called to the bar, but not succeeding in law practice he soon abandoned it. In 1825 he contributed to the "Edinburgh Review" an essay on Milton. Its effect was electrical, and its reception created such a blaze of popularity for its author that he at once took his place as one of the great literary characters of his time. By the failure of the firm of which his father was a member he was left without a fortune. At this juncture he was offered a seat in the Commons by Lord Lansdowne, entering in 1830 to represent what was then known as a "pocket borough." When the Reform Act of 1832 prevailed, he was made a commissioner of the Board of Control for Indian Affairs, devoting himself to a thorough study of India. In 1834 he accepted a seat on the Supreme Council of India. Here he drafted a penal code which became the basis of the criminal code of India. In 1838 he returned to England, and was at once sent to Parliament from Edinburgh. In 1839 he became Secretary of War in Lord Melbourne's cabinet. In 1846 he was appointed Postmaster-General in Lord John Russell's cabinet, where he had time to devote himself to his "History of England," which he had now begun. He soon retired entirely to private life in order to prosecute this work, refusing a seat in the cabinet in 1852. In 1848 the first two volumes of the "History" appeared. No other historical work ever met with so favorable reception or circulated so rapidly. It was translated into 10 European languages. Its circulation in America has been exceeded by few books ever published. In 1857 he was raised to the peerage as Baron Macaulay of Rothley. He died in Kensington, London, Dec. 28, 1859.

Macaw, a South American bird. The macaws are remarkable for their size and the beauty of their plumage. They are less docile than the true par-

rots, can rarely be taught to articulate more than a few words, and their cry is harsh and disagreeable. There are several species, known as the scarlet, the red and blue, the green and the red, and yellow, all of which have brilliant plumage and are very handsome birds.

Macaw Tree, the name given to several species of trees of tropical America, the fruit of which yields an oil of a yellowish color, with a sweetish taste, and an odor of violets, largely imported into the United States, where it is sometimes sold as palm oil, to be used in the manufacture of toilet soaps.

Macbeth, the hero of Shakespeare's tragedy of that name; a Scotch chief related to the reigning King Duncan, whom he assassinated in order to usurp his power, 1040. He fell in battle by the hand of Macduff in 1057.

McBurney, Charles, an American surgeon; born in Roxbury, Mass., Feb. 17, 1845; was graduated at Harvard College in 1866; and at the Columbia Medical School in 1870. He was Professor of Surgery in the College of Physicians and Surgeons, New York city, and consulting surgeon at St. Luke's, the Presbyterian, the New York Orthopedic, and other hospitals. When President McKinley was shot Dr. McBurney was summoned as consulting surgeon. He died Nov. 7, 1913.

McCabe, Charles Cardwell, an American clergyman; born in Athens, O., Oct. 11, 1836; was educated at Ohio Wesleyan University. In 1862 he became chaplain of the 122d Ohio Infantry; and at the battle of Winchester was captured and held in Libby Prison for four months. In 1884 he was made secretary of the Methodist Episcopal Missionary Society. He became widely known by his success in raising large sums of money for missionary and building purposes, and was elected bishop 1896. His lecture on "The Bright Side of Libby Prison" was very popular. Died Dec. 19, 1906.

Maccabees, a name applied to a patriotic family whose achievements were most notable. Antiochus Epiphanes a Syrian king, attempted to put down the Jewish worship, Palestine then being under his sway. The revolt began 168 B. C., under the leadership

of Judas Maccabaeus, and in 165 Judas took Jerusalem and purified the Temple. After achieving success, a Maccabean, called also an Asmonæan, dynasty reigned for about a century. Herod the Great, slaughterer of the infants of Bethlehem, putting to death Hyrcanus, the last scion of the house, though he was inoffensive, pious, and the high priest.

The Books of Maccabees: Four books of our present Apocrypha, with a fifth not in that collection.

Maccabees, Order of Knights of the, a fraternal and beneficiary organization founded in 1881 by Maj. N. S. Boynton, of Port Huron, Mich., on the traditions of the ancient Maccabees. The order has steadily and rapidly increased in numbers and importance. Official reports show over 4,000 subordinate tents and hives, and over 260,600 members.

McCall, George Archibald, an American military officer; born in Philadelphia, Pa., March 16, 1802. He was graduated at the United States Military Academy in 1822, and saw active service in the Seminole War the Mexican and Civil Wars. As Brigadier-Gen. of volunteers he commanded at the battle of Mechanicsburg, was captured and confined in Libby Prison. He died Feb. 25, 1868.

McCall, Sydney, pen-name of Mrs. Mary McNeil Fenollosa, of Alabama, author of "Truth Dexter," "The Breath of the Gods," and "The Dragon Painter." She spent some years in Japan.

McCalla, Bowman Hendry, an American naval officer; born in Camden, N. J., June 19, 1844; was graduated at the United States Naval Academy in 1864; promoted captain in 1898. In 1890 he was court-martialed on charges of cruelty toward the officers and crew of his ship, the "Enterprise," and was sentenced to suspension for three years. In the following year the President remitted the unexpired portion of the suspension because of his general record for gallantry. He commanded the protected cruiser "Marblehead" during the war against Spain in 1898, and rendered invaluable service to the American fleet by arranging a code of signals with the insurgents on shore, by personal communication with them, and

by scouting. His conduct here was so meritorious that the Secretary of the Navy recommended to the President the restoration of Captain McCalla to the place on the list of officers he occupied prior to his suspension. In October, 1899, he sailed for Manila in command of the "Newark," and on Dec. 12 received the surrender of all insurgent military forces in the provinces of Isabella and Cagayan, Northern Luzon, and in the Batan Islands. When the Boxer troubles broke out the "Newark" was ordered to Chinese waters. In June, 1900, he landed with 112 men, with whom he formed part of the column under Vice-Admiral Seymour that made the memorable but unsuccessful attempt to reach and relieve the legations in Peking. For his services at this time he received the congratulations of the Navy Department. On March 16, 1901, Captain McCalla was appointed commander of the battleship "Kearsarge," and in 1903, of the naval training station, San Francisco. Died May 6, 1910.

MacCarthy, Denis Florence, an Irish poet; born in Dublin, Ireland, in 1817. He wrote extensively, both original verse and translations from the Spanish, earning the praises of Ticknor and Longfellow, and in 1881 a medal from the Royal Academy of Spain. He died in Blackrock, near Dublin, April 7, 1882.

McCarthy, Justin, an Irish historian; born in Cork, Ireland, Nov. 22, 1830. He was a Home-Rule member of Parliament after 1879, and after the fall of Parnell, chairman of the Irish Parliamentary party. He spent three years (1868-1870) in the United States, traveling, lecturing, and engaged in literary work, being (among other things) connected editorially with the New York "Independent." He died April 24, 1912.

MacChesney, Clara T., an American artist; born in Brownsville, California in 1861. She studied art in her native city in Paris, and in New York. In 1893 she received two medals at the Columbian Exposition, in 1894 gained the Dodge Prize, New York, and in 1901 the 2d Hallgarten prize of the N. A. D. Genre pictures are her forte.

Macchiavelli, or Machiavelli, Nicolo, a Florentine statesman and

historian; born in Florence, Italy, May 3, 1469. After a life of great vicissitudes, due to the unsettled state of Italian, and especially Florentine politics, he died in poverty on June 22, 1527, in his native city. He was buried in the Church of Santa Croce, and a monument to him was erected by Earl Cowper in 1787. He has gained immortality by his book "The Prince," written in 1513, just after the return of the Medici. It is dedicated to Lorenzo de' Medici, by whom and by Giuliano de' Medici alone it was originally intended to be perused. The subject of the treatise (which is a short one) is the means by which a prince may acquire and maintain power; and what most strikes every modern reader of the book is the undisguised manner in which the author exhorts a prince to make use of all means, whether good or bad from a moral point of view, for these purposes, provided only that they are fitted to effect his object.

McClellan, George Brinton, an American military officer; born in Philadelphia, Pa., Dec. 3, 1826; was graduated at the United States Military Academy in 1846; joined the army as 2d lieutenant of engineers; took an active part in the Mexican War, where he distinguished himself under General Scott, and was promoted to a captaincy. At the commencement of the Civil War in 1861 he was appointed Major-General of the Ohio volunteers, but by the advice of General Scott he was tendered, by President Lincoln, the position of Major-General of the army. After a successful campaign in West Virginia he commanded and reorganized the Army of the Potomac; in the spring of 1862 invaded Virginia, and advanced near to Richmond, but was compelled to retreat and finally to evacuate the peninsula; after the defeat of General Pope in the second battle of Bull Run, in 1862, which was followed by a Confederate invasion of Maryland, he reorganized the army at Washington, marched rapidly N., met the forces of General Lee at Antietam. He won one of the hardest fought battles of history, and compelled Lee to recross the Potomac. He followed the Confederates into Virginia, but being opposed to the policy of the extreme war party

he was superseded by General Burnside. In 1864 he left the army and was the Democratic candidate for the presidency. He went to Europe in 1865, and, returning in 1868, superintended the construction of the Stevens floating battery. In 1870 he was appointed chief engineer of the department of docks for New York city, which office he subsequently resigned. He was elected governor of New Jersey in 1877, and administered that office to the satisfaction of all. He died in Orange, N. J., Oct. 29, 1885. General McClellan was beloved and admired by his troops, and is justly regarded as one of America's great commanders.

McClellan, George Brinton, born Nov. 23, 1865, at Dresden, Germany, where his parents, the late Gen. George B. McClellan, and Ellen (Marcy) McClellan, were on a visit. A graduate of Princeton, young McClellan worked as a reporter and editor on leading New York dailies, and was admitted to the bar. He was President of the Board of Aldermen, treasurer of the Brooklyn Bridge, member of Congress, 1895-1903, mayor of New York city 1903-9, and from 1912 Professor of Economic History at Princeton University.

McClelland, Robert, an American lawyer; born in Franklin co., Pa., in 1807; was graduated at Dickinson College, Pa.; in 1833 migrated to Michigan; from 1843 to 1849 represented the State in Congress; in 1852 was elected governor of Michigan; in 1835 President Pierce appointed him Secretary of the Interior. He died in Detroit, Mich., Aug. 30, 1880.

McClernand, Edward John, an American military officer; born in Jacksonville, Ill., Dec. 29, 1848; was graduated at the United States Military Academy in 1870; on duty in the West till 1879; Aug. 17, 1899, he was promoted colonel of the 44th Volunteer Infantry and ordered to the Philippine Islands. He routed the insurgents at Sudlon Mountain, Cebu, Jan. 8, 1900, and was commander of the W. coast of that island till April of the same year; was then given command of the 2d District in the Department of the Visayas, including Cebu, Bohol, Mactan, Bantayan, and "The Camotes;" retired in 1912.

McClernand, John Alexander, an American lawyer and soldier; born in Breckenridge co., Ky., May 30, 1812; admitted to the bar in 1832; was member of Congress 1843-1851; re-elected in 1858. At the commencement of the Civil War he joined the Union forces and was made a Brigadier-General of volunteers. He won distinction at the battle of Fort Donelson, and for his services was promoted Major-General. He relieved Sherman in command of the army before Vicksburg in 1863, and resigned in November, 1864. He was circuit judge for the Sangamon, Ill., district in 1870-1873; chairman of the Democratic Convention in St. Louis in 1876; and later member of the Utah Commission under President Cleveland. He died in Springfield, Ill., Sept. 20, 1900.

MacClintock, Sir Francis Leopold, a British naval officer and Arctic explorer; born in Dundalk, Ireland, in 1819. He succeeded, in the course of several voyages toward the North Pole, in making many and important discoveries, besides ascertaining the fate of Sir John Franklin. He was commander-in-chief of the North American and West Indian Station in 1879-82. He died Nov. 17, 1907.

MacClintock, John, an American educator and author; born in Philadelphia, Pa., Oct. 27, 1814; was elected president of Drew Theological Seminary in 1867. He was the author with James Strong of the "Cyclopædia of Biblical, Theological and Ecclesiastical Literature" (12 vols.); a work of many years' labor, and intended to cover the whole field embraced in the title. The last volume was published in 1895. He died in Madison, N. J., March 4, 1870.

McCloskey, John, an American Roman Catholic prelate; born in Brooklyn, N. Y., March 20, 1810. In 1834 he was ordained priest; in 1864 was made Archbishop of New York; in 1875 was appointed cardinal-priest. The history of his life is the history of the progress of the Roman Catholic Church in New York. He died in New York city, Oct. 10, 1885.

McCook, Alexander McDowell, an American military officer; born in Columbiana co., O., April 22, 1831; was graduated from the United States Military Academy in 1853; was in

command of the 1st Ohio Volunteers at the battle of Bull Run and was brevetted major; was made Brigadier-General of volunteers in September, 1861, Major-General in 1862, and was brevetted Brigadier-General, U. S. A., in 1865. He was promoted Brigadier-General, U. S. A., in 1890; Major-General in 1894; and was retired April 22, 1895. He represented the United States at the coronation of the Czar of Russia in 1896; and was a member of the commission appointed to investigate the War Department in the war against Spain, 1898-1899. He died June 13, 1903.

McCook, Daniel, an American military officer; born in Canonsburg, Pa., June 20, 1798. When the Civil War began he was 63 years old, but entered the Union army as a major of volunteers. He received a fatal wound in trying to check a raid of Gen. John Morgan and died near Buffington's Island, O., July 21, 1863. He had 10 sons in the Union service.

McCook, Henry Christopher, an American clergyman and naturalist; born in New Lisbon, O., July 3, 1837. He was vice-president of the American Entomological Society, and of the Academy of Natural Sciences of Philadelphia; and author of books on religious, patriotic, and entomological subjects. He died in 1911.

McCormick, Cyrus Hall, an American inventor; born in Walnut Grove, W. Va., Feb. 15, 1809. The reaping machine invented by him won him many gold medals and distinctions. He established the Presbyterian Theological Seminary of the Northwest in Chicago, 1859. He died in Chicago, Ill., May 13, 1884.

McCormick Observatory, near Charlottesville, Va., was built for the Univ. of Virginia in 1883-84.

McCormick, Robert Sanderson, diplomat, b. Rockbridge Co., Va., July 26, 1849, studied at the universities of Chicago and Virginia, became secretary of legation at London 1892; first ambassador to Austria-Hungary 1902; ambassador to Russia 1902; to France 1905.

McCosh, James, Scotch-American theologian, b. Carskloch, Scotland, Apr. 1, 1811. He became Pres. of Princeton College in 1868 and under the in-

fluence of his name Princeton advanced to a higher place than ever before among the universities of the United States. He resigned the presidency of Princeton in 1888. He died in Princeton, N. J., Nov. 16, 1894.

MacCracken, Henry Mitchell, an American educator; born in Oxford, O., Sept. 28, 1840; was graduated at the Miami University in 1857; studied at the Princeton Theological Seminary and in Europe. He accepted the chair of philosophy and the vice-chancellorship of New York University in 1884, and was chancellor in 1891-1910. Died, 1918.

McCrary, George Washington, an American lawyer; born near Evansville, Ind., Aug. 29, 1835; member of Congress from Iowa in 1868-1870 and 1872-1876; introduced the law under which the judiciary of the United States was reorganized; was Secretary of War in 1876-1879; and was judge of the 8th Judicial District in 1879-1884. He was the author of "American Law of Elections." He died in St. Joseph, Mo., June 23, 1890.

McCrea, James, railroad president; born at Philadelphia, May 1, 1848. He began his official career as rodman, became general manager, vice-president, and 1907, president of the Pennsylvania railroads. He died in 1913.

McCreary, James Bennett, lawyer, b. Madison Co., Ky., July 8, 1838. He was governor of Kentucky, 1875-9 and 1911-15; member of Congress 1885-97; U. S. Senator, 1903-9.

McCullagh, Joseph Burbridge, an American journalist; born in Dublin, Ireland, in 1842. He went to the United States in 1853. On the outbreak of the Civil War he enlisted as lieutenant under Gen. John C. Fremont, but later resigned to become a war correspondent. He later became editor-in-chief of the St. Louis "Globe-Democrat," which, under his charge, became one of the leading papers of the land. He died in St. Louis, Mo., Dec. 31, 1896.

McCulloch, Benjamin, an American military officer; born in Rutherford co., Tenn., Nov. 11, 1811; settled in Texas, and served in the Mexican War as a captain of Rangers. At the outbreak of the Civil War he became Brigadier-General in the Confederate

army and was killed while leading his command at the battle of Pea Ridge, March 7, 1862.

McCulloch, Hugh, an American financier; born in Kennebunk, Me., Dec. 7, 1808; received a collegiate education; settled in Fort Wayne, Ind., in 1833. In 1863 he was made comptroller of the currency, and in 1865 appointed Secretary of the United States Treasury. Owing to the drain on the National finances during the Civil War the Treasury at this time was in a very precarious condition, but in less than six months after Mr. McCulloch's appointment a large sum of the money due 500,000 soldiers and sailors was paid, other expenses met, and the National debt greatly reduced. He was Secretary of the Treasury in 1865-1869 and in 1884-1885. He wrote "Men and Measures of Half a Century." He died in 1895.

MacCullough, John Edward, an American tragedian; born in Coleraine, Ireland, Nov. 2, 1837; came to the United States in 1853. We was at the height of a very successful career when in 1884, both his mind and body gave way and he died in an insane asylum in Philadelphia, Pa. 1885.

McCurdy, James Frederick, a Canadian Orientalist; born in Chatham, N. B., Feb. 18, 1847; Professor of Oriental Languages in University College, Toronto, Ontario (1888). He has published various essays on subjects connected with Oriental learning.

MacDonald, George, a Scotch novelist and poet; born in Huntley, Aberdeenshire, Scotland, in 1824; educated at King's College and University, Aberdeen, and at Independent College, Highbury, London. He was originally an Independent minister, but became a lay member of the Church of England. He lectured in the United States, 1872-73. Died Sept. 18, 1905.

MacDonald, James Wilson Alexander, an American sculptor; born in Steubenville, O., Aug. 25, 1824. His works include a colossal bronze statue of Edward Bates in Forest Park, St. Louis, Mo.; a colossal head of Washington in Prospect Park, Brooklyn, N. Y., etc. D. 1908.

Macdonald, Sir John Alexander, a Canadian statesman; born in Glasgow, Scotland, Jan. 11, 1815. He was premier in 1869-1873, when

he resigned, over the Pacific Railway charges, but resumed the office again in 1878, and retained it for the rest of his life. He died in Earncliffe Hall, near Ottawa, June 6, 1891.

Macdonald, (James) Ramsay, British statesman, born Oct. 12, 1866, in Morayshire. Secretary of Labor Party, 1900-12; Treas. Labor Party, 1912-24; Prime Minister, Jan.-Nov. 1924, again chosen for that post in 1929.

McDonough Thomas, an American naval officer, born in New Castle co., Del., Dec. 23, 1783. In 1814 he commanded a squadron in Lake Champlain, and defeated the British under Commodore George Downie. For this service he was promoted captain and was given a gold medal by Congress. He died at sea Nov. 16, 1825.

MacDowell, Edward Alexander, composer; b. New York City, Dec. 18, 1861; studied in Europe; settled in Boston; gained a foremost position among modern composers; and from 1896-1904 was prof. of music at Columbia Univ. In 1905 he met with an accident which occasioned irremediable helplessness. Died, 1908.

McDougall, Alexander, soldier; b. Islay, Scotland, 1731. He became Ma.-Gen. in the Revolutionary War, U. S. Secretary of the Navy, member of Congress, 1781 and 1784-85, and died June 8, 1786.

McDowell, Irvin, an American military officer; born near Columbus, O., Oct. 15, 1818; was aid-de-camp to General Wool in the Mexican War (1845); commanded the Department of Northeastern Virginia and the defenses of Washington (1861), and the Army of the Potomac at the battle of Bull Run. He died May 5, 1885.

McDowell, Katherine Sherwood, an American poet; born in Holly Springs, Miss., Feb. 26, 1849. In 1872 she became private secretary to Longfellow. She died in Holly Springs, Miss., July 22, 1884.

Mace, a mediæval military implement used for dealing heavy blows. Now a heavy ornamental staff seen as a symbol of authority in legislative chambers, law-courts, etc.

Mace, a spice, the dried aril or covering of the seed of the nutmeg. It is extremely fragrant and aromatic.

and is chiefly used in cooking or in pickles.

Macedonia, in ancient geography, a territory lying to the N. of Greece, which first became powerful under its king, Philip, the father of Alexander the Great, and conqueror of Greece. Alexander the Great added immensely to the empire of Macedonia, and made what had only been a petty province mistress of half the world. After his death the empire was divided. As a result of the war with Turkey in 1912-13, Greece obtained new territory to the extent of 16,919 square miles. This territory included Macedonia, with the towns of Salonica, Serres, Drama, Kozani, and Florina. The entire region was a center of military operations in the World War and the complications of Greece. On Oct. 23, 1916, the British and French left wing joined the Italian right wing in Albania, securing a continuous line between the Adriatic and Aegean Seas. See APPENDIX: World War.

Maceo, Antonio, a Cuban patriot; born in Santiago de Cuba in 1848; killed at the head of a skirmishing troop in the revolution of 1896.

Maceo, Jose, a Cuban patriot; brother of Antonio Maceo; born in Santiago de Cuba in 1846. He was one of the leading spirits in the insurrection of 1868-1878, and was taken prisoner and sent to Spain. He attempted to escape to Gibraltar, but was captured and sent to the fortress of La Mola at Mahon, in the Balearic Islands; thence he made his escape to Algiers; when the rebellion again broke out in Cuba he returned there, arriving March 31, 1895. In a brief time he raised a large force, with which he defeated the Spaniards at Jobito in May, and again in September at Sao del Indio. He was killed at La Lama del Gato, July 5, 1896.

MacGahan, Januarius, Aloysius, an American war correspondent; born near New Lexington, O., June 12, 1844. He was war correspondent of the New York "Herald" during the Franco-Prussian War (1870-1871); accompanied the Russian expedition against Khiva in 1873, and the Arctic expedition on the "Pandora" in 1875. He is regarded by the Bulgarians as the author of their independence. He died in Constantinople, June 9, 1878.

McGiffen, Philo Norton, an American-Chinese naval officer; born in Pennsylvania, in 1863; was graduated at the United States Naval Academy in 1882; was sent to the China Station; resigned from the United States navy on the outbreak of war between France and China, and entered the service of the latter. He was placed in charge of the principal Chinese naval academy, and became a trusted companion of Admiral Ting, Li Hung Chang, and other Chinese officials. When the war broke out between Japan and China he was given command of the "Chen Yuen," the sister ship of the Chinese flagship. He was the first man of American or European blood who ever commanded a modern warship in battle; and his heroic conduct in the terrible fight on the Yalu, on Sept. 17, 1894, deserves a conspicuous place in history. He was so near the first gun when it exploded that his clothing was set on fire, his eyebrows and hair burned, his eyes injured, and though his ears were stuffed as tightly as possible with cotton, the drums of both ears were permanently injured by the explosion. He was unconscious for a time, but as soon as he regained his senses was on his feet giving orders. He received 40 wounds, many of them caused by splinters of wood; with his own hands he extracted a large splinter from his hip, and holding his eyelids open with his finger, he navigated his ship, which had been struck 400 times, safely to its dock, skillfully evading capture. The "Chen Yuen" was the only one of the Chinese vessels that came out of the fight with credit. In that dreadful battle McGiffen's nerves, limbs, and senses were shattered. He soon afterward returned to New York city, and while undergoing treatment in a hospital shot himself fatally, Feb. 11, 1897.

McGill, Alexander Taggart, an American theologian; born in Canonsburg, Pa., Feb. 24, 1807. In 1848 he was elected moderator of the General Assembly, and was then the youngest moderator in the Presbyterian Church. In 1854 he was appointed Professor of Homiletical and Pastoral Theology at the Theological Seminary, Princeton, N. J. He died in Princeton, N. J., Jan. 13, 1889.

McGill, James, a Canadian philanthropist; born in Glasgow, Scotland, Oct. 6, 1744. He emigrated to Canada before the American Revolution. He bequeathed to the college of Montreal that bears his name property valued even at that time at \$120,000. He died in Montreal, Canada, Dec. 19, 1813.

McGill University, an educational institution in Montreal, Canada, founded by James McGill in 1811.

McHenry, Fort, a fortification at the entrance of Baltimore harbor, which was unsuccessfully bombarded by the British fleet in 1814. It was at this time that "The Star Spangled Banner" was written by Francis Scott Key, an American citizen, who was detained on board a British vessel and witnessed the bombardment.

McHenry, James, an American novelist; born in Larne, County Antrim, Ireland, Dec. 20, 1785. He came to the United States in 1817, and settled in Philadelphia in 1824. He died in Larne, Ireland, July 21, 1845.

Machete, a cutlass-like tool or weapon, half knife, half cleaver, used either as a tool or weapon in Cuba and other countries of tropical America. The blade is about two feet long, slightly curved, resembling a pruning hook on a larger scale.

Machine Gun, a piece of ordnance of small caliber which can deliver a number of projectiles, either simultaneously or in rapid succession.

Mackay, Charles, a Scotch journalist; born in Perth, March 27, 1814; was editor of the "Illustrated London News," 1852-1869; and lectured in the United States in 1857-1858. While special correspondent of the London "Times" in New York during the Civil War (strongly favoring the Southern cause), he unearthed the Fenian conspiracy (1862). He died in London, Dec. 24, 1889.

Mackay, John William, an American capitalist; born in Dublin, Ireland, Nov. 28, 1831; died July 20, 1902. After a miner's life in California, he went to Nevada, and in 1872 was one of the discoverers of the Bonanza mines, of which he owned two-fifths. In 1884, with James Gordon Bennett, he laid two Atlantic cables.

McKean, Thomas, an American philanthropist; born in Philadelphia, Pa., Nov. 23, 1842; was graduated at the University of Pennsylvania in 1862; became an officer in many railroad and financial corporations; and was a liberal benefactor of educational and charitable enterprises. His gifts to the University of Pennsylvania alone aggregated \$300,000. He died March 16, 1898.

McKeesport, a city of Allegheny Co., Pa., 15 miles S. E. of Pittsburgh. It is an important coal-mining, iron and steel manufacturing center. Pop. (1930) 54,632.

McKelway, St. Clair, editor; born in Columbia, Mo., Mar. 15, 1845; educated in Trenton, N. J.; was admitted to the bar in 1866, but never practiced, becoming a journalist and editor of "The Brooklyn Eagle." He died July 16, 1915.

McKenna, Joseph, an American jurist; born in Philadelphia, Pa., Aug. 10, 1843; removed to Benicia, Cal., with his parents; studied law and was admitted to the bar in 1865; was a member of the California Legislature in 1875-1876; United States circuit judge in 1893-1897; Attorney-General of the United States in 1897, and in 1898 became Associate Justice of the U. S. Supreme Court. Died, 1926.

Mackensen, August von, a German military officer; born at Haus-Leipnitz, Saxony, Dec. 6, 1849; entered the Second Hussar Body Guards before his twentieth birthday; greatly distinguished himself in the Franco-Prussian War at Worth and Töury; became a Major-General in 1900 and Lieutenant-General in 1903; and subsequently commander of the 17th Army Corps at Dantzig, and a Field Marshal. It was he who drove the Russians out of Galicia, conquered Serbia, and captured the fortress of Przemyśl from the Russians within two months after they had wrested it from the Austrians. See APPENDIX: World War.

Mackenzie, Alexander, a Canadian statesman; born in Logierait, Perthshire, Scotland, Jan. 28, 1822; died April 17, 1892.

Mackenzie, Alexander Slidell, an American naval officer; born in New York, April 6, 1803. He was a brother of John Slidell, the Confeder-

ate commissioner — "Mackenzie" being assumed later. He published "A Year in Spain, by a Young American," which attained great popularity in England and the United States. Washington Irving commended it highly. He died in Tarrytown, N. Y., Sept. 13, 1848.

Mackenzie, Robert Shelton, an American writer; born in Drews Court, County Limerick, Ireland, June 22, 1809. He went to the United States in 1852. He died in Philadelphia, Pa. Nov. 30, 1880.

Mackenzie River, in North America, a stream having its origin, as the Athabasca, in a Rocky Mountain lake in British Columbia, flowing over 600 miles to Lake Athabasca, and 240 as the Slave River to Great Slave Lake, where it assumes the name of Mackenzie River, conveying the waters of the Great Slave Lake to the Arctic Ocean at Mackenzie Bay, after a final course of 1,045 miles, making a total river-system of nearly 2,000 miles. It drains an area of little less than 600,000 square miles. The Mackenzie received its name from Sir Alexander Mackenzie, by whom it was discovered and first navigated in 1789.

Mackerel, one of the spiny finned fishes. The home of the common mackerel may be broadly described as the North Atlantic Ocean. It is an extremely valuable food fish, and the mackerel fishery is only second in importance to herring and cod fisheries.

Mackey, Albert Gallatin, an American writer on Freemasonry; born in Charleston, S. C., March 12, 1807. His works are authorities. He died in Fort Monroe Va., June 20, 1881.

McKibbin, Chambers, an American military officer; born in Pittsburg, Pa., Nov. 2, 1841; joined the army as a private Sept. 22, 1862, and two days afterward was made 2d lieutenant of the 14th Infantry. He won distinction during the engagement of North Anna River, Va., and was promoted 1st lieutenant June 10, 1864. In July, 1898, he was commissioned a Brigadier-General of volunteers; participated in the battle of Santiago de Cuba; and for gallantry was promoted Brigadier-General, U. S. A., and made military governor of that city. On June

6, 1899, he took command of the Department of Texas. Retired in 1902.

McKinley, William, an American statesman, 24th President of the United States; born in Niles, O., Jan. 29, 1843. He was educated at the public schools, and at the Poland, O., Academy. In May, 1861 he volunteered for the army, and entered the 23d Ohio Infantry as a private. He served four years, rising by merit and faithfulness to the captaincy of his company, and to the rank of major when mustered out in 1865. He at once began the study of law; in 1867 was admitted to the bar, and commenced practice at Canton, O., where he afterward had his residence. In 1869 he was elected prosecuting attorney for Stark County, where his success attracted local attention. Entering politics, he was elected to Congress in 1876, and was reelected for six successive terms. In 1882 his election was contested and he was unseated but triumphantly returned at the next election. His reputation in Congress rests chiefly on the tariff bill that bears his name. It was drawn by him as chairman of the Ways and Means Committee, and passed by the 51st Congress. This bill and his able advocacy of it before the House distinguished him as the leader of the Republican party, on the tariff question. The Republican party went before the country in 1892 almost solely on the issue raised by the McKinley tariff, but a reaction against it had set in, and Mr. Cleveland was elected. Meanwhile McKinley failed of reelection in his district, though largely reducing the adverse plurality created by a re-districting that changed the limits of the district. In 1894 he was elected Governor of Ohio by a large plurality over former Governor James E. Campbell, a very popular Democrat, and re-elected in 1893 in the reactionary tidal wave of politics following a contrary tariff policy that carried the Republican party back to power in Congress, having a plurality of over 80,000. By this time his name was frequently mentioned as a future candidate for the presidency. In 1895 a systematic canvass in McKinley's behalf was instituted by his supporters which was continued till the election of 1896. These sagacious and well-timed efforts, with the general acceptability of Mc-

Kinley in the Republican party ranks, made it certain long before the convention met that he would be the candidate. He was nominated and elected by a plurality of 603,514, and an electoral majority of 93, after a campaign of more intense interest than was displayed in any election since the Civil War.

President McKinley's first term is memorable chiefly for the occurrence of the Spanish-American War and its unexpected results. That his policy during 1896-1900 was acceptable was shown by his unanimous renomination and reelection in 1900 by a plurality of 849,000 and an electoral majority of 137. His second term began most auspiciously and ended tragically. On Sept. 5, 1901, he visited the Pan-American Exposition in Buffalo, N. Y., that day having been set apart in his honor and called the "President's Day." On the afternoon of the following day, while holding a public reception in the Temple of Music, he was shot twice by Leon F. Czolgosz, an anarchist, who was at once arrested. The wounded President was first taken to the Emergency Hospital on the exposition grounds for immediate treatment, and then removed to the residence of John N. Milburn, the president of the exposition. Hopes of his recovery were entertained for several days, but on Sept. 13 he began to sink rapidly and died at 2:15 A. M., Sept. 14. His remains were removed to Washington on Sept. 16, laid in state in the Capitol on the 17th, and taken to his home city, Canton, O., where they were interred on the 18th amid universal mourning. The assassin was placed on trial in Buffalo, N. Y., on Sept. 23, and found guilty of murder in the first degree on Sept. 24, in a trial lasting less than nine hours and covering a period of two days. On Sept. 28 he was sentenced to death, and on Oct. 29, the sentence was carried out.

McKinley Act, a tariff bill reported to Congress May 21, 1890, by the Ways and Means Committee of the House of Representatives, of which William McKinley was chairman. It became a law in October, 1890, and was repealed in 1894. It raised the duties on wool, woolen manufactures,

and some agricultural products, and remitted the duty on raw sugar.

McKinnon, Donald Alexander, a Canadian official; born Feb. 21, 1863; admitted to the bar of Prince Edward Island in 1887; elected to House of Assembly in 1893 and 1897, and to House of Commons in 1900; Attorney-General in Provincial Cabinet; became Lieutenant-Governor of Prince Edward Island in 1904.

McLaws, Lafayette, an American military officer; born in Augusta, Ga., Jan. 15, 1821; was graduated at the United States Military Academy in 1842; served in the Mexican War till the surrender of Vera Cruz; and was promoted captain Aug. 24, 1851. At the beginning of the Civil War he was commissioned a Brigadier-General in the Confederate army; and was promoted Major-General May 23, 1862. During the march of Sherman to the sea he commanded the defenses of Savannah. He died July 24, 1897.

Maclay, Edgar Stanton, an American author; born in Foochow, China, April 18, 1863; graduated at Syracuse University, N. Y., in 1885. On Sept. 7, 1901, he was appointed a "skilled laborer" at the New York navy yard. He wrote a "History of the United States Navy." In the third volume of that work, where a description of the battle between the fleets of the United States and Spain at Santiago is given, the author reflected on Rear-Admiral Schley. After the publication of this volume Admiral Schley called for a court of inquiry into his conduct, which was granted. After the court made its report the Secretary of the Navy requested the resignation of Maclay in December, 1901. The latter on refusing to comply with this request was summarily dismissed by order of President Roosevelt. Besides the above named work Maclay wrote "Reminiscences of the Old Navy," and "The History of American Privateers." His work previous to the attack on Admiral Schley was universally commended.

McLellan, Isaac, an American poet; born in Portland, Me., May 21, 1806; was educated at Bowdoin College. He was a friend of Longfellow, Hawthorne, Daniel Webster, and the

poet Willis. His love for outdoor sports was so intense, and his poems on these themes so numerous, that they won him the title of "the poet-sportsman." He died in Greenport, L. I., Aug. 20, 1899.

MacIise, Daniel, a British painter; born in Cork, Ireland, Feb. 2, 1806. He was the son of a Highland soldier named McLeish. He entered the school of the Royal Academy, London, in 1828, soon exhibited at the Academy, and in 1833 made himself famous by his "All-Hallow Eve." His later pictures are many of them familiar by engraving. The frescoes—each 45 feet long and 12 feet high—in the Royal Gallery of the House of Lords, depicting "The Meeting of Wellington and Blucher on the Evening of the Battle of Waterloo" and "The Death of Nelson at Trafalgar," were admitted to be the finest mural paintings hitherto executed in Great Britain. He died in London, England, April 25, 1870.

Macmahon, Marie Edme Patrice Maurice de, Duke of Magenta, a Marshal of France, descended from an Irish Jacobite family; born in Sully, near Autun, France, Nov. 28, 1808. Entering the army, he saw much active service in Algeria, and in the Italian campaign of 1859, winning a Marshal's baton and the dignity of Duke of Magenta for the decisive part he took in the battle of that name. In 1873 he was elected president of the republic for a period of seven years, with some hope that the restoration through him of the Bourbons might be secured. He resigned on Jan. 30, 1879; died Oct. 17, 1893.

McMaster, John Bach, an American historian; born in Brooklyn, N. Y., June 29, 1852. He was a civil engineer; wrote several valuable American historical works; 1883-1920 Professor of American History in the University of Pennsylvania; Prof. Emeritus, 1920.

McMillan, Sir Daniel Hunter, a Canadian official; born in Whitby, Ontario, in Jan., 1846; served with the Volunteers on the Niagara frontier, during the Fenian raid, on the Red River expedition, and in the Northwestern rebellion; elected to Manitoba Legislature in 1880; became Lieutenant-Governor of Manitoba in 1900.

Macmonnies, Frederick William, sculptor; born in Brooklyn, N. Y., in 1863. He studied with Saint Gaudens, and in Munich and Paris. He has produced numerous notable works.

Macomb, Alexander, an American military officer; born in Detroit, Mich., April 3, 1782; joined the army in 1799. He was made brigadier-general in January, 1814; and placed in command of the Lake Champlain region; on Sept. 11, won a brilliant victory at Plattsburg, for which he was promoted major-general. In 1835 he was appointed general-in-chief of the United States armies and held that post till his death, June 25, 1841.

Macon, city and capital of Bibb county, Ga.; on the Ocmulgee river and the Central of Georgia and other railroads; 88 miles S. E. of Atlanta; is in the heart of a very productive cotton belt, a manufacturing and jobbing center of a large section; has extensive manufactories of cotton and knit goods, iron work, hosiery, fertilizers, lumber, and cotton gins; and is the seat of Mercer University (Bapt.), St. Stanislaus College (R. C.) Wesleyan College (Women), Ballard Normal School for colored students, Central City College (Colored), Mt. DeSales Academy, and the State Institution for the Blind. Pop. (1930) 53,829

Macon, Nathaniel, an American statesman; born in Warren co., N. C., Dec. 17, 1757. He was educated at Princeton College; in 1777 left college; served for some time as a private in a company of volunteers; and at the expiration of this first service enlisted again as a volunteer and served as a common soldier under the command of his brother, Col. John Macon, till the provisional treaty of peace in 1782, refusing any pay or military distinction. He was elected to the United States House of Representatives in 1791, and continued there till 1815. In 1816 he was elected to the Senate, where he served till 1828, when he resigned, having been then a member of Congress for 37 years. He died in 1837.

McPherson, Edward, an American journalist and author; born in Gettysburg, Pa., July 31, 1830; was graduated at the University of Pennsylvania (1848); was a member of Congress (1858 and 1860); permanent

president of the National Republican Convention (1876); editor of the Philadelphia "Press" (1877-1880); received the degree of LL. D. from the University of Pennsylvania (1877). Died in Gettysburg, Pa., Dec. 14, 1895.

Macpherson, James, the translator of Ossianic poems; born in Ruthven, Inverness-shire, Scotland, Oct. 27, 1736. Having, in 1760, produced "Fragments of Ancient Poetry, Translated from the Gaelic or Erse Language," they were so well received, that a subscription was formed to enable the author to collect additional specimens of national poetry. The result of his researches was "Fingal, an Ancient Epic Poem," in six books, together with several other poems (professedly translated from originals), by Ossian, the son of Fingal, a Gaelic prince of the 3d century, and his contemporaries. He translated the "Iliad" into Ossianic prose; wrote a "History of Great Britain from the Restoration of the Accession of the House of Hanover." He died Feb. 17, 1796.

Macpherson, James Birdseye, an American military officer; born in Sandusky, O., Nov. 14, 1828; was graduated at the United States Military Academy in 1853; entered service in the Civil War, and was chief engineer on the staff of General Grant in 1862; was killed at Atlanta, Ga., July 11, 1864.

Macready, William Charles, an English tragedian; born in London, England, March 3, 1793; did much to promote the Shakespearean drama; visited the United States in 1826 and 1849; died April 27, 1873.

McReynolds, James Clark, an American jurist; born in Elkton, Ky., Feb. 3, 1862; B. S. of Vanderbilt University in 1882; graduate of the University of Virginia in law in 1884; began practice in Nashville, Tenn.; professor in law department, Vanderbilt University, in 1900-3; U. S. Assistant Attorney-General in 1903-7; long retained by the Government in matters relating to the enforcement of anti-trust laws; U. S. Attorney-General in 1913-14; appointed an Associate Justice of the U. S. Supreme Court in the latter year.

MacVeagh, Franklin, an American financier; born in Chester county,

Pa.; was graduated at Yale in 1862 and at the Columbia Law School in 1864; abandoned law from ill health, and established a wholesale grocery house in Chicago; became interested in manufacturing and banking; defeated for United States Senate in 1894; was Secretary of the United States Treasury in 1909-13.

Madagascar, a large island in the Indian Ocean, 240 miles from the E. coast of Africa, from which it is separated by Mozambique Channel; length, 980 miles; greatest breadth, 360 miles; area, about 228,000 square miles; population (1925) 3,598,728. The vegetable products grown for food include rice, manioc or cassava, sweet potatoes, ground nuts, and yams. Ginger, pepper, and indigo grow wild in the woods; cotton, sugar cane, coffee, tobacco, and hemp are cultivated. Coal is found in the N. W., rice, cattle, hides, gum, india-rubber, wax, cotton, sugar, vanilla, lard, and coffee are exported to Mauritius, Reunion, and Europe. Humped cattle are found in immense herds, and form a large part of the wealth of the inhabitants, as do also sheep, goats, swine, and horses. The inhabitants, called Malagasy, belong to the Malayo-Polynesian stock and speak a Malayan language. They appear to form a single race, though they are divided into numerous tribes, each having a distinctive name and customs. The Hovas are the ruling tribe, they having extended their sway over nearly the whole island, while the other chief tribes are the Betsimasarka, the Betsileo, and the Sakalava. The religion of the great bulk of the people is a kind of fetishism or worship of charms. Many of their superstitious customs have been abolished and Christianity adopted, chiefly by the Hovas. Capital, Tananarive, a striking and well-built town; pop. (1925) 70,081, on a lofty hill about 200 miles inland. The island was made a French colony, and General Gallieni was appointed resident-general and commander-in-chief in September, 1896. His vigorous and determined policy made a great improvement in the condition of the country.

Madder, a trailing or climbing annual, supporting itself by its leaves and prickles. The roots, which are ready the third year, are kiln-dried,

Madeira

threshed, dried again, and pounded in a mill. The root is used in dyeing.

Madeira, a Portuguese island in the North Atlantic, 360 miles from the coast of Africa; area 314 square miles; pop (1920) 179,002. Adjacent to Madeira is Porto Santo, a small island, and the Desertas, which, with Madeira itself, compose the group of the Madeiras. Capital and chief center of trade, Funchal; pop. 24,687.

Madison, city and capital of Dane county and of the State of Wisconsin; between Lakes Monona and Mendota and on the Chicago & Northwestern and other railroads; 82 miles W. of Milwaukee; is in the picturesque "Four Lake" country; has valuable mineral springs nearby; is a popular summer resort; and has extensive manufactures of farming implements. It is the seat of the State University, Washburn Observatory, State Historical Society, State Hospital for the Insane, Soldiers' Orphan's Home, Federal Building, and the Monona Lake Assembly. Pop. (1920) 38,378; (1928 Est.) 50,500.

Madison, James, an American statesman, 4th President of the United States; born in Port Conway, Va., March 16, 1751. He was the oldest of a family of seven children. His early education was mostly under private tutors. In 1769 he entered Princeton College, graduating in 1771. He studied law, and afterward, with some idea of entering the ministry, theology. He first attracted public attention through his efforts in company with Jefferson and George Mason to secure the religious rights of the dissenting sects in Virginia, as against the taxation and persecution to which they were subjected by the Anglican party. In 1776 he was elected to the convention that framed the Virginia constitution; in 1777 he was defeated for the Virginia Assembly, but appointed a member of the Executive Council; in 1780 entered the Continental Congress, where he served three years; and in 1784 was elected to the Virginia Legislature, where he advocated the abolition of the feudal system of entail and primogeniture, and the removal of the remaining hindrances to perfect religious freedom. In 1785 he urged a meeting of the States by delegates to perfect a common gov-

Madonna

ernment, and was a member of the Constitutional Convention of 1787, and one of the chief framers of the Constitution of the United States. He advocated the adoption of it in some of the ablest papers of "The Federalist." He gradually parted political company with the Federal party and refused a seat in the cabinet and the mission to France in consequence of his inclination to adopt the principles of the Republican party. During Adams's administration he remained mostly in retirement. In 1794 he married a brilliant society woman, Mrs. Todd, who afterward proved socially helpful to him in public life. He opposed the Alien and Sedition Laws that were repealed somewhat through his influence. His writings produced to some extent the reaction against the Federalists that resulted in Jefferson's election, who at once (1801) made him Secretary of State, in which office he conducted the diplomatic affairs of government so ably as to make him Jefferson's successor. He was elected to the presidency in 1808. The principal events of his administrations concern the War of 1812 with Great Britain and the treaty by which it was concluded. He filled the office for two terms, retiring in 1817 to his estate. He served in his old age as rector of the University of Virginia, and as a member of the convention called to reform the Virginia constitution. He died in Montpelier, Va., June 28, 1836.

Madoc, son of Owen Gwynnedd, a Welsh prince, believed by his countrymen to have discovered America about 300 years before Columbus. Compelled, it is said, by civil strife, to abandon his native land, he sailed W. in 1170 with a small fleet, and, after a voyage of several weeks, reached a country whose productions and inhabitants were quite unlike those of Europe. Here he lived for a long time; then, returning to Wales, he gave an account of the new land that he had discovered, equipped another fleet, set sail again, and was never more heard of.

Madonna, a word originally used in Italy, like madame in France, as a title of honor and dignity, but now exclusively applied to the Virgin Mary, as in other languages she is called "Our Lady." It is also applied to a

number of celebrated pictures, in which the Virgin forms the sole or principal object.

Madoqua, a diminutive antelope about the size of a hare, common in Abyssinia. Legs short and slender; the males alone bear horns, which are short and conical.

Madras, a province and governorship, formerly a presidency of India. With the State of Mysore, and dependencies, it occupies the entire S. of the triangular peninsula of India; length, 950 miles, breadth, 450 miles; area, 142,330 square miles; pop. (1921) 42,232,270. The capital, Madras, situated on the E., or Coromandel, coast of India, 885 miles S. W. of Calcutta, and 790 miles S. E. by rail of Bombay. Pop. (1921) 526,911.

Madrid, the capital of Spain and of the province of Madrid, a part of New Castile, situated near the heart of the country, on the left bank of the Manzanares, a sub-affluent of the Tagus, and on a hilly, sandy plateau, 2,200 feet above the sea. One of the handsomest of European cities, it has a very modern aspect, and is partly surrounded by a brick wall 20 feet high, and pierced by 16 gates, the most notable being the Puerta de Alcalá (1759), a triumphal arch 72 feet high at the foot of the Calle de Alcalá, a magnificent street that traverses the city from N. E. to S. W. The city is girt with fine promenades and stately suburban villas embowered in beautiful gardens.

The great building in Madrid is the Real Palacio, on the W. side, between the city and the river. It is a square, 470 feet on each side, and 100 feet high, built (1737-1759) of granite and white marble, inclosing a court 240 feet square, and containing a library of 100,000 volumes, an armory of 2,533 specimens, and a numismatic collection of 150,000 pieces. Madrid has also about 60 churches, 44 monasteries, used since 1836 for secular purposes, 24 nunneries, 24 hospitals (one with 1,526 beds), 14 barracks, 100 elementary schools, several colleges or higher schools, a university, a medical school, a conservatory of music, eight theaters, four public libraries, eight museums, a botanical garden, an observatory, an academy modeled on that of Paris, etc. The royal

museum in the Prado contains a gallery of 1,833 pictures, one of the richest collections in the world.

The industries of Madrid are slight. The commerce, however, is important, as Madrid is the entrepot for interior provinces. Pop. (1923) 813,991.

Madrigal, a short amorous poem, consisting of not less than three or four stanzas or strophes, containing some tender and simple thought. The term is also applied to a vocal composition of two or more movements, and in five or six parts. The musical madrigal was at first a simple song, but afterwards was suited to an instrumental accompaniment.

Madura, a maritime district of India, in the S. of the presidency of Madras; area, 8,401 square miles; pop. (Est.) 3,500,000. Chief town is Madura, the third largest in the presidency; pop. (1921) 138,894.

Madura, an island of the Dutch East Indies, separated by a narrow strait from the N. E. of Java; area 1,726 square miles. It is mostly barren, but possesses numerous forests and salt marshes. Along with about 80 smaller islands, lying mostly to the E., it forms a Dutch residency; area, 2,040 square miles. Pop. (Est.) 2,000,000.

Mæander, a river in Asia Minor, 200 miles long, which flows W. S. W. from Mount Aulocrene, in Phrygia, to the Ægean Sea, near Miletus. The proverbial windings of the Mæander made its name a synonym for a tortuous course.

Mæcenas, **Caius Cilnius**, a man whose name is imperishably associated with the Augustan literature of Rome. His great glory was the happy influence that he exercised over the emperor as a patron of learning, and his own munificence and taste in the same direction.

Maelstrom ("grinding stream"), or Moskenstrom, a famous whirlpool, between Moskenas and Mosken, two of the Lofoden Isles, off Norway. The strait is navigated by vessels at high and low tide, though in one place the water is always rough and churned into angry foam. When the wind blows directly against the current it becomes extremely dangerous, especially with spring tides or during a N. W. wind.

Maerlant, Jakob van, a Flemish poet; born presumably in Maerlant, on the island of Voorue, about 1235. He founded the didactic school of poetry in the Netherlands, and has been called "the father of Dutch poets." His most important work was his unfinished "Mirror of History," begun in 1283. He died at Damme (near Bruges), where a monument has been erected to his memory, in 1291.

Maestricht, the capital of the province of Limburg, Netherlands, 19 miles N. N. E. of Liege, situated on the left bank of the Meuse. Maestricht's great sight is the subterranean quarries of the Pietersberg, formerly called Mons Hunnorum (Mount of the Huns, 330 feet). Their labyrinthine passages, 12 feet wide and 20 to 50 feet high, number 16,000, and extend over an area of 13 by 6 miles. They are supposed to have been worked first by the Romans. Maestricht was called by the Romans Traiectum ad Mosam to distinguish it from Traiectum ad Rhenum (Utrecht). Pop. (1925) 54,268.

Maeterlinck, Maurice, a Belgian author; born in Ghent, Flanders, Aug. 29, 1862; acquired a collegiate education; studied law; published his first work, "The Massacre of the Innocents," in Paris, in 1889; then abandoned law and settled in Paris. In 1911 he received the Nobel Prize for Literature, and in 1914 the Congregation of the Index, of the Roman Catholic Church, forbade the faithful to read, keep, borrow, or sell his works, objecting particularly to his "Immortality" and "La Mort." His other publications include the dramas "The Blind," "The Intruder," "Princess Maleine," "The Seven Princesses," and "The Blue Bird"; a volume of verse, "Hot House Blooms"; and the essays, "The Treasure of the Humble."

Mafia, The, a Sicilian secret society akin to the Camorra, in Naples. The Mafia, under one designation or another, runs back to the Middle Ages. It punished crimes against itself by death. Minor crimes are still somewhat protected by the organization, but the policy of the government, one of steady legal pressure and change of venue for the trial of the criminals,

is gradually paralyzing the Mafia. As a result large numbers of the Mafiosi have emigrated to the United States. In New Orleans the order became responsible for many secret assassinations. In 1890 the chief of police, Captain Hennessy, determined to stamp out the Mafia, but was shot. The assassins were arrested and tried, but the jury disagreed, partly from fear of vengeance, whereupon an orderly, but determined mob broke open the jail, and shot eleven of the culprits. Some of them being Italian citizens, the government of Italy made demand on the United States for reparation and the Italian minister at Washington was recalled. Crimes committed among the Italians in New York and other cities are often laid to the Mafia. See BLACK HAND.

Magdalena, the principal river of Colombia, rising in the Central Cordillera about 8 miles from the Cauca; length about 970 miles.

Magdalen, or Magdalene, Mary, that is, Mary of Magdala, a woman mentioned in the New Testament, as having had seven devils cast out of her, as watching the crucifixion, and as having come early to the sepulcher on the resurrection morning. She was erroneously identified as the "woman who was a sinner" (Luke vii: 37), and hence the term Magdalen came to be equivalent to a penitent fallen woman.

Magdeburg, a German city, the capital of Prussian Saxony; situated on the Elbe river (which here forms several branches); 76 miles W. S. W. of Berlin. Magdeburg ranks as a fortress of the first class, and is one of the strongest places in Europe. Its defensive works have been reconstructed since 1866, but the citadel is still of defensive value. As the capital of the province Magdeburg is the seat of a number of courts and public offices. There are electric and steam railroads. Magdeburg is a place of great antiquity, and is mentioned in records in the 8th century. It early distinguished itself in the Reformation and long exerted a powerful influence in its favor. In 1631, after a siege in which it valiantly defended itself it was taken by storm and given up to indiscriminate massacre by the brutal Tilly. Pop. (1925) 285,711.

Magellan, the incorrect but generally received name of **Magalhaens, Ferdinand**, a celebrated Portuguese navigator; born in Saboroso, Portugal, about 1480. In 1520 he discovered and passed the straits which have since been called by his name and was the first to circumnavigate the world. He was slain in a skirmish with the natives on Mactan, one of the Philippine Islands, April 27, 1521.

Magellan, Strait of, a sea-passage separating South America on the S. from Tierra del Fuego; length 375 miles, breadth from 12 to 17 miles. It was discovered by Magellan in 1520, and first thoroughly explored by King and Fitzroy in the "Adventure" and "Beagle" (1826-1836).

Magendie, Francois, a French physiologist and physician; born in Bordeaux, France, Oct. 15, 1783. He made important additions to the knowledge of nerve-physiology, the veins, and the physiology of food, and wrote numerous works. He died in Paris, France, Oct. 7, 1855.

Magenta, an Italian town, 18 miles W. of Milan. Here, on June 4, 1859, 55,000 French and Sardinians defeated 75,000 Austrians, the latter losing 10,000 (besides 7,000 prisoners), and the allies only 4,000. For this victory Macmahon received his dukedom.

Maggiore, Lago, one of the largest lakes in Italy, the Lacus Verbanus of the Romans, situated for the most part in Italy, but also partly in the Swiss canton of Ticino; length 39 miles, breadth from $\frac{1}{2}$ mile to $5\frac{1}{2}$ miles; 646 feet above sea-level, with a maximum depth of 1,158 feet.

Magi, a sect of priests among the ancient Medes and Persians. They formed one of the six tribes into which the Medes were originally divided, and on the downfall of the Median empire they continued to retain a great degree of power and authority with the conquerors, being the recognized ministers of the national religion. The great apostle of their religion was Zoroaster. They were so celebrated for their enchantments, that they have given name to the art of magic or enchantment.

Magic, the art or pretended art of putting in action the power of spirits; the science or art of producing preternatural effects by the medium of

supernatural means, or the aid of departed spirits, or the occult powers of nature. A belief in magic is to be reckoned among the earliest growths of human thought. It is everywhere present, in a greater or less degree, in an inverse ratio to the progress of civilization.

Magic Lantern, an instrument by which the images of objects, usually, but not always, transparent, and paintings or diagrams drawn on glass are exhibited, considerably magnified, on a wall or screen.

Magill, Mary Tucker, an American writer; born in Jefferson co., Va., Aug. 21, 1832. After the Civil War she conducted Angerona College for Girls, at Winchester, Va. She died near Richmond, Va., April 20, 1889.

Magna Charta, or **Magna Carta**, originally the Great Charter of the liberties of England signed and sealed by King John at the demand of his barons, at Runnymede, on June 19, 1215. It was several times confirmed by his successors.

Magna Graecia, or **Major Graecia**, in ancient history, the name applied by Greek writers to their colonies formed on the S. shores of Italy. Rhegium was founded about 730 B. C., and Croton, Sybaris, Tarentum, etc., subsequently.

Magnesium, in chemistry, a diatomic metallic element. It is a brilliant metal, almost as white as silver, and preserves its luster in dry air. It is more brittle than silver at ordinary temperature; but at a higher temperature it becomes malleable and may be pressed into the form of wire or ribbon.

Magnetism, the science which treats of the phenomena exhibited by magnets—phenomena due to one of those forces which, like electricity and heat, are known only by their effects. The phenomena of magnetism were first observed in the loadstone or magnet. The loadstone is magnetic iron ore, found in many parts of the world, especially in the Scandinavian peninsula and in Siberia. It has the power of attracting small pieces of iron and steel. A piece of loadstone forms a natural magnet, and has the

further remarkable power of giving all its own properties to hard iron or steel when these bodies are rubbed by it. A bar or mass of iron or steel to which the peculiar properties of a natural magnet have been imparted by friction from other magnets or by electric induction is called an artificial magnet. When freely suspended, all magnets, natural and artificial, rest with their lengths in a N. and S. direction, and this property is utilized in the compass. They attract iron and other magnetic substances with a force increasing from the middle of the magnet to its extremities, which are called its poles. The magnetism at the two poles is different. That pole which points to the N. is distinguished as the north by the sign plus (+); that which points to the S. as the south pole, by the sign minus (-). The poles of the same denomination repel each other, while those of different names have mutual attraction.

Magnetism pervades the earth as electricity does the atmosphere. It assumes a totally different form in different substances; the metals iron, nickel, and cobalt being strongly attracted by the magnet; others such as bismuth, copper, silver, gold, etc., being as strongly repelled. The space in the neighborhood of a magnet is called the magnetic field; a piece of soft iron brought into this space becomes magnetic, but it loses its magnetism as rapidly on removal from the field. Steel has coercive force, in virtue of which it requires time for magnetization, and retains its magnetism on removal from the field. Hard steel may be made magnetic by rubbing it several times in the same direction with a powerful magnet. The most powerful permanent magnets are produced by rubbing bars of steel on electro-magnets, or by moving them backward along the axis of a coil of wire in which an electric current is passing. When a magnet is broken into a number of pieces each piece is found to be magnetic, and its N. pole is found to have been directed toward the N. pole of the unbroken magnet. When these pieces are put together again, poles placed in contact nullify each other, and the original magnet is reproduced.

Terrestrial magnetism, which pervades the whole earth, is extremely complicated. It becomes manifest by its influence on the magnetic needle, varying with the time and place over the earth. One pole of the needle points toward the N., the other toward the S. There are, however, only two lines on the surface of the earth, on which it points directly N. and S., and where the magnetic and geographical meridians appear to coincide. Elsewhere the needle deviates more or less from the true N.

Magneto-Electricity, the science which treats of the production of electricity by means of a magnet. It was discovered by Faraday in 1831.

Magnitude, in astronomy, a term applied to the apparent size of stars viewed from the earth. In geometry, the term was originally applied to signify the space occupied by a body. As thus used, it applied only to those portions of space which possessed the three attributes of extension—length, breadth, and thickness, or height. By extension of meaning it has come to signify anything that can be increased, diminished, and measured.

Magnolia, a tree or shrub named after Pierre Magnol (1638-1715), Professor of Medicine at Montpellier, and author of several botanical works. They have large, terminal, odoriferous flowers, and are found in North America and Asia. The great-flowered magnolia, or laurel bay, is a fine evergreen tree, 70 feet high, found in America. The species have large, beautiful, fragrant flowers.

Magoon, Elias Lyman, an American clergyman and author; born in Lebanon, N. H., Oct. 20, 1810. He died Nov. 25, 1886.

Magoon, Charles E., an American executive; born in Steele Co., Minn., Dec. 5, 1861; admitted to the bar in 1882; law officer, Bureau of Insular Affairs, 1899-1904; general counsel, Isthmian Canal Commission, 1904-5; governor Panama Canal Zone, 1905-6; minister to Panama, 1905-6; provisional Gov. of Cuba 1906. D. 1920.

Magpie, a bird of the genus *Pica*, allied to the jays; the French and Medieval English "pie," pied or variegated bird. It is of a lustrous iridescent white and black color.

Magruder

Magruder, John Bankhead, an American military officer; born in Winchester co., Va., Aug. 15, 1810. He was graduated at the United States Military Academy; served in the Mexican War; at the outbreak of the Civil War entered the Confederate army; afterward served under the Emperor Maximilian, of Mexico, and died in Houston, Tex., Feb. 19, 1871.

Magruder, Julia, an American prose-writer; born in Charlottesville, Va., Sept. 14, 1854.

Mahabharata, one of the two great epic poems of India, the other being the Ramayana.

Mahaffy, John Pentland, an Irish educator; born in Switzerland in 1839. He was educated in Germany and at Trinity College, Dublin, being graduated in 1859. He is noted for a wide range of scholarship, and was a frequent contributor to periodicals and published books on many subjects. Died 1919.

Mahan, Alfred Thayer, an American naval officer and writer; born in West Point, N. Y., Sept. 27, 1840; was graduated at the United States Naval Academy in 1859; served in the Civil War; was president of the Naval War College, Newport, in 1886-1889 and 1890-1893; visited Europe in command of the "Chicago" in 1893, receiving many honors, among them degrees from both Oxford and Cambridge. He was retired at his own request Nov. 17, 1896. During the war with Spain he was a member of the Naval Board of Strategy; and in 1899 was appointed by President McKinley as one of the American delegates to the Universal Peace Conference at The Hague. His chief work "Influence of Sea Power upon History," with its continuation, "Influence of Sea Power upon the French Revolution and Empire," gave him a world-wide reputation. He died Dec. 1, 1914.

Mahan, Asa, an American clergyman and educator; born in Vernon, N. Y., Nov. 9, 1800. He was president of Oberlin College, 1838-1850; of Cleveland University, 1850-1856; of Adrian College, Mich., 1860-1871. He died in Eastbourne, England, April 4, 1889.

Mahdi

Mahanoy City, a borough in Schuylkill county, Pa.; near Broad Mountain and on the Lehigh Valley and other railroads; 13 miles N. E. of Pottsville; is chiefly engaged in coal-mining. Pop. (1930) 14,784.

Mahatma, a word applied by Brahmans to one who has attained the highest point of spiritual light.

Mahdi, Mahdee or Muhdee, in Mohammedan theology, the surname of a second Mohammed, the last or 12th Imaum. According to the Shi-ahs (Mohammedan Scripturalists) of Persia, he is now alive in the unseen world, and will appear with Elias the Prophet at the second coming of Jesus Christ. Mohammed Ali, governor of Egypt, commenced, about the year 1821, the conquest of the Sudan, which was completed about a half century later by General Gordon. On his departure the incapacity of his Egyptian successors drove the Sudanese into revolt. At first the rebellion was political, but a religious element arose and asserted its predominance. An individual gave out that he was the divinely-promised Mahdi, come for the deliverance of the faithful. A military revolt, headed by an Egyptian, Arabi Pasha, had been attended by the massacre of many European Christians at Alexandria, and the British fleet had been sent out to prevent a fresh outbreak, New forts being built to threaten the ships, the fleet captured them on July 11, 1882, while an army defeated the Egyptians in a short but very bloody fight at Tel-el-Kebir, on Sept. 13. The British government advised Egypt to give up all attempts to reconquer the Sudan. The advice was neglected, an Egyptian army, headed by an Englishman, Hicks Pasha, was sent out, but was destroyed and its leader killed. A second, under Baker Pasha, was put to flight with great slaughter on Feb. 4, 1884.

The Egyptians were now willing to let the Sudan go. But the Sudanese, not contented to obtain their independence, sought to massacre the Egyptian garrisons of about 20,000 men. General Gordon went to Egypt to oppose this, but failed in his endeavor, and after defending himself in Khartum for about a year, was overcome by treachery on Jan. 26,

1885, and Gordon and many others slain, just as a relieving army was approaching for his deliverance. The Sudan was lost. Twelve years later it was reconquered by the British. The Mahdi had died in the meantime and been succeeded by Khalifa Abdullah. On Sept. 2, 1898, General Kitchener with an Anglo-Egyptian army defeated the hosts of the Mahdi and captured Omdurman, Khalifa Abdullah's capital and stronghold, thus ending Mahdist rule in the Sudan.

Mahmud, Sultan of Ghazna, the founder of the Mohammedan empire in India; born in Ghazna, Afghanistan, about 970. His father, Sabaktagin, governor of Ghazna, owned a nominal allegiance to Persia, but was really independent. On his death Mahmud put aside his elder brother; formed an alliance against the Persian monarch, overthrew his kingdom and laid the foundation of an extensive empire in Central Asia (999). He then turned his attention to India, and in a series of 12 invasions secured a great amount of treasure and vastly extended his power. He was a patron of literature, and brought many men of learning about his court. He died in Ghazna in 1030.

Mahogany, the wood of a lofty and beautiful tree of Central America and the West Indies. Its wood is close-grained, hard, susceptible of a fine polish, and has been largely used for the manufacture of household furniture.

Mahone, **William**, an American legislator; born in Southampton co., Va., Dec. 1, 1826; was graduated at the Virginia Military Institute in 1847, and became an engineer and constructor. When the Civil War broke out he entered the Confederate army; recruited and commanded the 6th Virginia Regiment. He was the organizer and leader of the Readjuster party, which had for its policy the conditional repudiation of the Virginia State debt; and was a United States Senator in 1880-1887. He died in Washington, D. C., Oct. 8, 1895.

Mahony, **Francis Sylvester**, known as Father Prout, humorist and poet; born in Cork, Ireland, in 1804; died in Paris, France, May 18, 1866.

Mahrattas, **Marathas**, or **Marhahas**, a people of mixed origin, Hindus in religion and caste ordinances, inhabiting Western and Central India, from the Satpura Mountains to Nagpur.

Maidenhair, a beautiful fern found in the United States, continental Europe, Asia, Africa, and Polynesia.

Maid of Norway, **Margaret**, the daughter of Eric, King of Norway, and Margaret, the daughter of Alexander III. of Scotland. On the death of Alexander she was acknowledged Queen of Scotland, and was betrothed to Edward, son of Edward I. of England, but died on her passage to England in 1290.

Maimonides, **Moses**, a Jewish philosopher; born in Cordova, Spain, March 30, 1135. He harmonized Judaism and philosophy. Driven with his family from Spain, he resided in Fez; then traveled by way of Palestine to Cairo, becoming there chief rabbi and the caliph's physician. His chief work, written in Hebrew, is "Mishneh Torah" (Repetition of the law: 1170-1180), a masterly exposition of the whole of the Jewish law as contained in the Pentateuch and the voluminous Talmudic literature. He died in Egypt, Dec. 13, 1204.

Main, **Hubert Platt**, composer and editor; born in Ridgefield, Conn., Aug. 17, 1839. A worker in New York city, he has been known for 45 years as a hymn composer, and as editor of a vast number of devotional song and hymnal collections. D. 1925.

Main, a river of Germany; rises in the Fichtelgebirge; flows in a generally W. direction for a distance of 300 miles; and joins the Rhine a little above the town of Mainz. It is navigable for about 200 miles, and has been improved so as to admit the largest Rhine steamers to Frankfort. By means of King Ludwig's canal it affords through navigation to the Danube.

Maine, a State of the North Atlantic Division of the North American Union; admitted to the Union, March 15, 1820; number of counties, 16; area, 33,040 square miles; pop. (1930) 799,662, capital, Augusta.

The surface of the State is as a rule hilly and mountainous, except-

ing along the coast, where it is flat and sometimes marshy. The main mountain system crosses the State in a N. E. direction from the White Mountains, past Mount Katahdin and Mount Abraham to Mars Hill near St. John river. The highest elevation is Mount Katahdin, in the center of the State, 5,383 feet. The coast line is very irregular, and, with its numerous indentations, presents a length of over 2,000 miles. The sea coast E. of the Kennebec rises abruptly to a height of from 1,000 to 2,800 feet, while the W. portion consists of swamps and sand flats, extending 10 to 20 miles inland. The rivers rise in the mountains at the N. of the State and in Canada and New Hampshire and flow rapidly and with numerous falls and rapids to the sea, affording excellent water power. The principal ones are the St. John, forming most of the Canadian boundary; the Penobscot, Kennebec, and Androscoggin, rising in the N. and central portions of the State, and flowing into the Atlantic. Maine has over 1,500 lakes. Moosehead Lake, the largest, is 35 miles long, 10 miles wide, and 1,023 feet above sea-level. Rangeley and Richardson lakes in the E. have an altitude of 1,500 feet.

The State is well supplied with minerals, especially in the N. E. counties. In building and monumental stones Maine is especially rich. The metallic products consist of iron, tin, lead, copper, zinc and manganese. Maine ranks first in feldspar, and Vermont and Massachusetts are the only ones to have greater granite output.

The State presents a great variety of soil. That on the sea coast and mountain lands is sterile and does not repay cultivation. The soil in the river valleys between the Penobscot and Kennebec is of alluvial formation and exceedingly valuable for cereals. The great valley of the Aroostook contains the most fertile lands E. of the Mississippi valley. The upland is the best for grazing and the clay loam for hay. The forests of the State are of great value. In the N. the trees are principally pine, fir, spruce, hemlock, and other evergreens, with cedars in the N. E. In the central portion of the State the white

and red oak, maple, beech, birch, and ash, are abundant, while further S. the poplar, elm, basswood, dogwood, sassafras, juniper, butterwood, butternut, chestnut, alder, and willow abound.

In 1925 the value of all farm property was \$245,869,000. The estimated value of 67 farm crops in 1929 was \$85,100,000 to which potatoes contributed \$57,173,000; hay, \$17,525,000; apples, \$3,696,000; oats, \$3,416,000. Livestock in the state on Jan. 1, 1930, was as follows: 67,000 horses, 138,000 milch cows, 227,000 other cattle, 42,000 swine, and 89,000 sheep. Dairy products constitute an important source of Maine's agricultural wealth, much of them being shipped to New York city markets.

The 1927 census of manufactures reported 1,426 establishments with 68,142 employees, earning \$74,212,000 and producing products valued at \$372,093,000. The chief manufactures of Maine are lumber, paper pulp, woolen and worsted goods, cotton goods, boots and shoes, oil cloth, canned goods, flour, and machinery.

The governor of Maine is elected for a term of 2 years at a salary of \$5,000 per year. The legislature meets biennially and is unlimited as to time. There are 31 members in the Senate and 150 in the House.

In 1928 there were 151,914 pupils enrolled in public and private elementary and secondary schools; 230 public and private high schools and academies with 31,025 pupils, and, for higher education, 5 universities, colleges and professional schools with 3,243 students.

The territory between the Kennebec and Penobscot rivers was granted by Charles II., in 1664, to his brother the Duke of York, who had the year before established a seat of government there at the city of Pemaquid, where a strong fort was built. This country was surrendered to Massachusetts in 1686, which took possession, exercised government over it as far E. as Penobscot, which, with all the territory E. to the St. Croix and Nova Scotia, was confirmed to her by the provisional charter of 1691. She afterward relinquished Nova Scotia, but all the remainder was secured to her by the treaty of 1783, which established the

independence of the United States, and she retained possession and jurisdiction till the separation of 1820 took place, which constituted Maine a separate State.

Maine, The, a second-class, twin-screw battleship of the United States navy, destroyed in the harbor of Havana on the evening of Feb. 15, 1898. She was of 6,648 tons displacement; her length was 318 feet; breadth, 57 feet; main battery, four 10-inch and six 6-inch breech-loading rifles; secondary battery, seven 6-pounder and eight 1-pounder rapid-fire guns; crew, 34 officers and 370 men; cost, \$2,500,000. In 1910 Congress provided for raising the wreck.

Maine, The, the new vessel of this name, built for the United States navy, a first-class battleship of over 12,000 tons displacement. Its main battery consists of four 12-inch, and ten 6-inch guns, and its speed is 18 knots an hour. The new "Maine" has underwater torpedo tubes, the first ever put in any ship in the American navy. It has very little wood-work and what there is has been treated by a process which renders it absolutely incombustible. Its comparatively shallow draft will enable it to maneuver in waters where other ships of the same fighting power would be aground. It is protected by 10-inch plates of the new "Krup-pized" armor.

Maine, University of, a coeducational non-sectarian institution in Orono, Me.; founded in 1865.

Maine-et-Loire, a department of France, watered by the rivers whose names it bears; area, 2,811 square miles; pop. (1911) 508,149; capital, Angers.

Maine Liquor Law, a law of the State of Maine vesting the sale of intoxicating liquors in special agents appointed by the State, and prohibiting all other persons from such sale. The manufacture of intoxicating liquor for unlawful sale is also forbidden. Anyone injured by an intoxicated person may maintain an action against the seller of the liquor, and the owner or lessee of the building in which the liquor was sold is jointly liable if cognizant that the building was used for such purpose.

Maintenon, Francoise d'Aubigne, Marchioness de, born in Niort, France, Nov. 27, 1635. She was first the mistress, and later the second wife of King Louis XIV. of France; she died April 15, 1719.

Mainz (English, Mentz; French, Mayence), a fortified town of Germany, in the grand-duchy of Hesse, finely situated on the left bank of the Rhine, opposite the mouth of the Main, 20 miles W. S. W. of Frankfort. Its history during the 16th century is of considerable interest in connection with the progress of the Reformation. Pop. (1925) 108,552.

Mair, Charles, a Canadian poet; born in Lanark, Ontario, Sept. 21, 1840; was educated at Queen's University, Kingston; participated in the suppression of the first and second Riel rebellions in the Northwest Territories.

Maistre, Count Xavier de, a French soldier and writer; born in Chambéry, Savoy, in October, 1764. After serving in Piedmont and Italy, going to Russia, he rose to the rank of Major-General. His masterpiece was the much admired "Journey Round My Room," written while under arrest for fighting a duel. He died in St. Petersburg, Russia, June 12, 1852.

Maitland, William, commonly known as Secretary Lethington, a Scotch statesman, eldest son of Sir Richard Maitland; born about 1525. He early adopted the reformed doctrines, and was one of the first public men openly to renounce the mass. In 1558 he was appointed secretary of state by Mary of Guise. In 1560 he was the speaker of the Parliament which abolished the authority of the Pope in Scotland. On Queen Mary's arrival in Scotland he was chosen one of her principal ministers. After Darnley's murder he conspired to effect Mary's escape from Lochleven; yet he attended the coronation of James VI. and fought against her at Langside. The regent Moray had him arrested in 1569 as an accessory to Darnley's murder. He was set at liberty, and after the assassination of Moray he became the life and soul of the queen's party. In 1571 he joined Kirkcaldy in Edinburgh Castle; was proclaimed a traitor by the Parliament, and attainted with his two brothers. On the surrender

of Edinburgh Castle, Kirkcaldy and his brother were hanged, but Maitland died in prison in Leith, presumably by his own hand, June 9, 1573.

Majolica, (from the Italian name of the island of Majorca, where this ware seems to have been first made), a decorated kind of enameled pottery made in Italy from the 15th to the 18th century.

Major, in the army, a field officer next in rank above a captain and below a lieutenant-colonel.

Majorca, or **Mallorca**, the largest of the Balearic Isles, lying about 100 miles from the Spanish coast and 150 N. of Algiers; length, 60 miles; breadth, 40 miles; area, 1,310 square miles. The capital is Palma. Pop. about 235,000.

Majuba Hill, in the extreme N. of Natal, S. Africa, was the scene of the defeat of 648 British troops, with the loss of their leader, Sir George Colley, by a superior force of Transvaal Boers, Feb. 27, 1881. The night before, after an eight hours' climb, the British occupied the hill, which overlooked the Boer position at Laing's Nek. Toward noon the hill unexpectedly carried by a sudden rush of the Boers. The loss of the latter was about 130, of the British more than 200 in killed and prisoners, besides many wounded and some missing.

Makaroff, Stepan Osipovich, Russian admiral; born in 1848; entered the navy in 1864; and advanced rapidly to the grade of captain. He was conspicuous for his daring and bravery in the Russo-Turkish War (1877-78). From 1891-94 he ranked counter-admiral and inspector-in-chief of naval artillery, and was engaged in improvements of ordnance. He was a prolific inventor and the designer of the "Ermak" ice-breaker, and similar vessels. In the Russo-Japanese War he was sent to Port Arthur to take command of the fleet there, arriving on Mar. 8, 1904. On April 13, during a sortie he was among the 600 killed in the blowing up of the battle-ship *Petropavlosk*, by the Japanese.

Makemie, Francis, founder of the Presbyterian Church in the United States; born in Ireland in 1658; was licensed by the Presbytery of Laggan in 1681, and went to Barbadoes; re-

moved to Maryland, where, in 1684, he organized a church at Snow Hill. He married a lady of Virginia and itinerated through the Southern States. In 1704 he visited England and brought over two more ministers. He assisted in forming the Presbytery of Philadelphia and was its moderator in 1706. He died in 1708.

Makololos, a tribe of Basutos, who, under their chief, Sebituane, and his son Sekeletu, founded an extensive kingdom in the basin of the Upper Zambesi. A successful rebellion by the conquered tribes broke up the kingdom in 1864.

Malacca, Strait of, a channel separating the Malay Peninsula on the N. E. from the island of Sumatra on the S. W., and connecting the Indian Ocean with the Chinese Sea; length, 480 miles; breadth, from 30 miles at the S. E. to 115 miles at the N. W. extremity.

Malachi, the last of the Old Testament minor prophets. Of his history nothing is certainly known. The Prophecies of Malachi, the last prophetic book of the Old Testament. When it was penned, the Jewish people were under a governor instead of a king, and the Temple was rebuilt. The governor was probably Nehemiah, during his second visit to Jerusalem. In Malachi's time religion was at a low ebb. With absence of piety came low morality. The prophet encouraged a small remnant who had remained faithful. He predicted the rise of "the Sun of righteousness," the advent of Jehovah to His Temple, a "messenger," "Elijah the prophet" preparing His way. The Hebrew style of the book is argumentative rather than poetical. Its canonical authority has never been doubted.

Malachite, a monoclinic mineral found with other copper ores extensively distributed, in great abundance in the Ural Mountains, Russia, also in South Africa and Australia.

Malaga, a sea-port town of Spain, capital of the province of the same name, situated on the Mediterranean, 68 miles N. E. of Gibraltar, and 254 S. W. of Madrid; is commanded by an old Moorish fortress, called the Gibralfaro, and is of circular form, surrounded by a double wall, with a

number of stately towers; the city is of Moorish construction. The harbor of Malaga, capable of containing about 450 merchant vessels, is protected by three moles, one 700 yards long. Pop. (1924) 159,535.

Malancourt, a town of N. France, 11 miles E. N. E. of Varennes and 13 miles N. W. of Verdun, on a tributary of the Meuse; has manufactures of buttons, lace, and embroidery; suffered in the great German operations against Verdun. Pop. about 1,500.

Malaria, a class of infectious diseases, produced by the *Plasmodium malariae*, a protozoa parasite. Malaria formerly was supposed to arise from air tainted by miasmata or by the exhalations of stagnant marshy districts. It is known now that infection arises from the bites of mosquitoes.

Malay Archipelago, also known as the INDIAN, ASIATIC, or EASTERN ARCHIPELAGO, situated approximately between the meridians of 95° and 135° E. and the parallels of 11° S. and 17° N. Has the Indian Ocean on the W. and the Pacific on the E. Within these limits lie some of the largest and finest islands in the world, as Borneo, Sumatra, Java, Celebes, the Philippines, etc. The chief of the smaller islands are the Moluccas or Spice Islands, Billiton, Banca, Madura, Bali, Lombok, Sumbawa, Flores, Timor. The islands are generally fertile and covered with a luxuriant vegetation, and they produce all kinds of tropical products in abundance. Many of them contain volcanoes. A large portion of the archipelago, under the sway of Holland, is frequently called the Dutch East Indies. See separate articles on the principal islands or groups.

Malay Peninsula, the southernmost part of Continental Asia, extending in a long narrow projection first S. and then S. E. from Siam and Burmah. It varies in width from 45 miles at the N. to about 210 miles. The area is about 70,000 square miles, and the pop. is variously estimated at from 650,000 to 1,000,000, including large numbers of Chinese. The country is mountainous, with peaks of from 5,000 to 9,000 feet high; it is densely wooded; rivers numerous but short.

Malays, a race of people inhabiting the Malay Peninsula, and spread over all the Asiatic Archipelago. In physical appearance they are rather under the middle height, light-brown in color, with black, straight hair, high cheek-bones, black and slightly oblique eyes, and scanty or no beard. They are of a taciturn, undemonstrative disposition; naturally indolent; treacherous in their alliances; and addicted to piracy. The civilized Malays profess the Mohammedan religion. The Malay language is agglutinative in character, and is very extensively used as that of literature and commerce.

Malcolm, the name of various Scotch rulers. Malcolm III., surnamed Canmore ('Great Head'); born about 1024. After the murder of his father, Duncan, by Macbeth, he sought aid from Siward of Northumbria, and his cause was also espoused by Edward the Confessor. On the defeat and death of Macbeth he was crowned at Scone in 1058. In 1068 he granted asylum to Edgar Atheling, his mother, and two sisters (one of whom, Margaret, he married in 1070), with a number of Saxon exiles.

Malden, a city in Middlesex county, Mass.; on the Malden river and the Boston & Maine railroad; 5 miles N. of Boston; manufactures rubber boots and shoes, sand-paper, soap, lasts and boot-trees, and leather; and contains a United States niter depot, Converse Memorial Hall, Art Gallery and Library, and a hospital. Pop. (1928 Est.) 53,400.

Maldivé Islands, a chain of 17 coral islets (atolls) in Indian Ocean, about 300 miles from Hindustan, and 500 from Ceylon. Pop. over 70,000.

Malesherbes, Chretien Guillaume de Lamoignon de, a French statesman; born in Paris, France, Dec. 6, 1721. He succeeded his father as president of the Court of Aids, besides which he had the superintendence of the press. In 1771, on the abolition of the Parliaments, he was banished to his country-seat, but was recalled three years afterward, reinstated as president, and made minister of state, which post he soon resigned, and then went to Switzerland. In 1787 he was again called to the councils of his sovereign, Louis XVI.; but his advice

was rejected, and he retired to his country-house, where he employed himself in agricultural pursuits. He, however, hastened, of his own accord, to plead the cause of his sovereign, in 1792; and he was one of the last who took leave of him before his execution. Shortly after his return home, his daughter, Madame de Rosambo, and her husband were arrested and conducted to Paris; and his own arrest, with that of his grandchildren, soon followed. Almost his whole family were extirpated by the merciless proscription of his persecutors. Malesherbes was beheaded in Paris, April 22, 1792.

Malet, Sir Edward Baldwin, an English diplomatist; born in The Hague, Holland, Oct. 10, 1837; was educated at Eton and at Corpus Christi College, Oxford; was employed in the diplomatic service at Washington, Paris, Peking, Athens, and Rome. In April, 1878, he was appointed minister plenipotentiary at Constantinople, and in the following year agent-consul-general and minister plenipotentiary to Egypt. He was ambassador to Germany in 1884-1895; then retired on a pension. Died June 30, 1908.

Malibran, Maria Felicita, a mezzo-soprano singer; born in Paris, France, March 24, 1808. She was the daughter of Manuel Garcia, a Spanish singer and teacher of singing. She made her debut in London in 1825, and soon her reputation extended over Europe. Her father attempted to establish the Italian opera in New York, but without success. She married M. Malibran, a French merchant there who soon became bankrupt; she then returned to the stage, and was received with great enthusiasm in France, England, Germany, and Italy. Her first marriage having been dissolved, she married M. Beriot, a famous violinist, in 1836. She was one of the greatest of operatic singers. She died in Manchester, England, Sept. 23, 1836.

Malice, in law, a premeditated or formed design to do mischief or injury to another, called also "malice prepense" or "aforethought."

Mallery, Garrick, an American ethnologist; born in Wilkesbarre, Pa., April 23, 1831; was graduated at Yale (1850); became a lawyer; on the out-

break of the Civil War, went to the front, and rose through the various grades to that of lieutenant-colonel. He died in Washington, D. C., Oct. 24, 1894.

Mallock, William Hurrell, an English author; born in Devonshire, England, in 1849. He was educated by a private tutor, and afterward at Oxford, where, in 1871, he gained the Newdigate Prize Poem. He never entered a profession though at one time he contemplated the diplomatic service. He has written "Prosperity and Progress"; "Labor and the Popular Welfare"; etc.

Mallow, a genus of plants. The common mallow is a perennial, with rather large bluish-red flowers on erect stalks. The dwarf mallow has smaller, whitish or reddish-white flowers. These two plants have a mucilaginous and somewhat bitter taste. The musk mallow has a faint musk-like smell. The marsh mallow is of another genus.

Malojarslavetz, a town of Russia, province of Kaluga. It is noted as the scene of the sanguinary Russian defeat in 1812, by the French under Napoleon I.

Malpighi, Marcello, an Italian physician and anatomist; born in Crevalenore, in 1628; died in 1694. He was Professor of Medicine at Bologna and Pisa, and became first physician to Pope Innocent XII. in 1691. He is noted for his anatomical discoveries.

Malplaquet, a village of France near the Belgian frontier, celebrated for the defeat of the French, by the allied British and Austrian troops, Sept. 11, 1709.

Malta (anciently Melita), an island in the Mediterranean belonging to Great Britain; 62 miles S. S. W. of Sicily, and 197 miles N. of Africa; length, 17 miles; central breadth, about 9 miles; area, 91½ square miles, to which the adjoining islands of Gozo and Comino add 26; pop. (1921) 211,864. The climate is hot in summer; pleasant in winter. Malta has an interesting history. See JOHN, KNIGHTS OF ST.

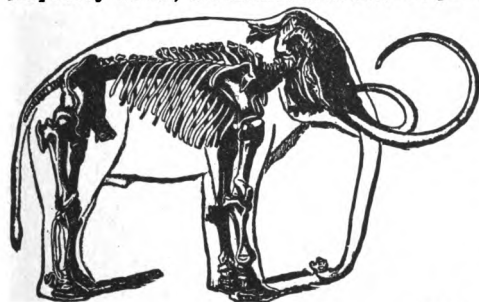
Malte-Brun, Conrad, a Danish geographer; born in Thisted, Jutland, Aug. 12, 1775. After studying theology a short time at the University of Copenhagen, he devoted himself to lit-

Maltese Cross

erature and politics. He was banished to Sweden in 1796. After having resided for a time at Stockholm, he went to Paris, where he soon acquired a great reputation as a geographer. He wrote "Summary of Universal Geography" the first volume of which appeared in 1810, and the last after his death, in 1829. He died in Paris, Dec. 14, 1826.

Maltese Cross, a cross formed of four arrow-heads meeting at the points; the badge of the Knights of Malta. This form of cross is the emblem of the order known as "King's Daughters."

Maltese Dog, a small variety of spaniel, with long, silky hair, most frequently white; the muzzle is round.



SKELETON OF THE MAMMOTH.

Malthus, Thomas Robert, an English political economist; born in Albury, Surrey, England, Feb. 14, 1766. The Malthusian system is founded on the hypothesis that population increases in a geometrical, while provisions only increase in an arithmetical ratio. It proposes to remedy or alleviate the consequent evils and miseries of poverty by a preventive check—the normal restraint on marriage, dictated by reason and reflection, and adhered to by deliberate and benevolent choice. He died in Bath, Dec. 29, 1834.

Malting, a process by which barley, wheat, rye, or any other description of grain is converted into malt.

Malvern Hill, an eminence near the James river, S. E. of Richmond, Va. Here, on July 1, 1862, the Confederates, under Lee, were defeated by the Union army under McClellan.

Mammoth Caves

Mamelukes, or **Mamalukes** (Arabic, 'slaves'), the former mounted soldiery of Egypt, consisting originally of Circassian slaves. As early as 1254 they became so powerful that they made one of their own number sultan, this dynasty continuing till 1517, when it was overthrown by Selim I. They still continued to be virtual masters of the country, however. They suffered severely in opposing the French at the end of the 18th century, and in 1811 Mehemet Ali caused a general massacre of them throughout Egypt.

Mammalia, the highest class of the Vertebrata and the animal kingdom, including those animals we familiarly term quadrupeds, the whales, dolphins, and other fish-like forms, and man himself. The characters which separate the mammals primarily from other Vertebrata, and from all other animals, may be summed up in the definition that they are vertebrate animals possessing a typical body covering of hairs, and nourish their young for a longer or shorter period.

Mammon, the Syrian god of riches. The word is now held to be a mere personification of riches. It is used in this latter sense in Matt. vi: 24, and Luke xvi: 9. Milton poetically makes Mammon a fallen angel of sordid character.

Mammoth, a species of extinct elephant, the fossil remains of which are found in European, Asiatic, and North American formations. Geologically speaking, the mammoth or *Elephas primigenius*, dates from the Post-pliocene period. It survived the glacial period, its remains having been frequently found associated with human remains, and its figure carved on bone. It had large curved tusks; was covered with fur and shaggy hair; and was twice as large as the modern elephant. Bones and tusks have been found in great abundance in Siberia, and America. In the St. Petersburg Imperial Museum is the perfect preserved carcass of a mammoth found in the frozen ice in Siberia in 1903.

Mammoth Cave, a cavern near Green river, Edmonson co., Ky., about

85 miles S. S. W. of Louisville. The cave is about 10 miles long, but it requires upward of 150 miles of traveling to explore its multitudinous avenues, chambers, grottoes, rivers, and cataracts. The main cave is 4 miles long, from 40 to 300 feet wide, and rises in height to 125 feet. The most interesting features of the cave are: The Chief City or Temple, covering an area of about four acres and having a dome of solid rock 120 feet high; the Star Chamber, about 500 feet long by 70 feet wide, with a ceiling 70 feet high, consisting of black gypsum dotted with many white points which, when the chamber is lighted, have all the appearance of stars; Silliman's avenue, 1½ miles long, 20 to 200 feet wide, and 20 to 40 feet high; Cleveland's Cabinet, an arch 50 feet wide, 10 feet high and 2 miles long, covered with a variety of formations; the Maelstrom Abyss and Bottomless Pit, each of which is 20 feet wide and about 175 feet deep; and the river Styx, 450 feet long and crossed by a natural bridge about 30 feet high. The cave contains various kinds of animals, and there are also found lizards, crickets, frogs, bats, and different sorts of fish. The latter include the famous eyeless fish, which are white in color. The atmosphere is pure and healthful and there is a temperature throughout the year of about 59°.

Man, a collective term for the human species. Since the middle of the 19th century there has been a growing tendency to refer all the sciences relating to man to one comprehensive science, Anthropology.

Blumenbach divided mankind into five races, the Caucasian, the Mongolian, the Ethiopian, the American, and the Malay. Cuvier reduces the five to three, the Caucasian, the Mongolian, and the Ethiopian. Pritchard extended them to seven, the Iranian (the same as the Caucasian), the Turanian (the same as the Mongolian), the native Americans, the Hottentots, the negroes, the Papuans or Woolly-headed Polynesians, the Alfuro and Native Australians. Latham divides mankind into three varieties, Mongolidae, Atlantidae, and Japetidae. Huxley's classification of mankind is into the Australoid, Negroid, Mongoloid, Xanthochroic, and Melanochroic races.

Managua, the capital of Nicaragua, situated in a fertile district, on the S. shore of Lake Managua. 53 miles S. E. of Leon. Pop. (1926) 32,536

Manassas Junction, a small town in Prince William co., Va. (twice during the Civil War an important military position), where the Alexandria and Manassas Gap railways meet, near a creek named Bull Run, 35 miles S. W. of Washington, D. C. The battles of Bull Run, fought July 21, 1861, and Aug. 29-30, 1862, were known to the Confederates as the battles of Manassas.

Manasseh, in Scripture history, the eldest son of Joseph, born in Egypt. His descendants constituted a full tribe. This was divided in the promised land; one part having settled E. of the Jordan, in the country of Bashan, from the river Jabbok N.; and the other W. of the Jordan, between Ephraim and Issachar, extending from the Jordan to the Mediterranean.

A king of Judah, who succeeded his father, Hezekiah, at the age of 12 years. The commencement of his reign was disgraced by a series of crimes and idolatrous abominations, and "innocent blood filled Jerusalem from one end to the other." In 677 B. C. Esarhaddon, King of Assyria, invaded his dominions, and carried Manasseh captive to Babylon, where his misfortunes produced repentance. After a long captivity the King of Babylon gave him his liberty and restored him to his kingdom. On his return to Jerusalem, he established the worship of the true God. He died in 643 B. C.

Manchester, a town in Hartford county, Conn.; on the Hockanum river and several railroads; noted for its great silk, paper, and cotton and woolen mills. Pop. (1930) 21,973.

Manchester, city and (with Nashua) capital of Hillsboro county, N. H.; on the Merrimac river and the Boston & Maine railroad; 18 miles S. E. of Concord; has excellent water-power from the Amoskeag Falls in the river, which is utilized in extensive manufactories of locomotives, steam fire engines, boots and shoes, and cotton, woolen, and knit goods; capital invested in manufacturing, over \$30,000,000; value of annual output, over \$35,000,000. Pop. (1930) 76,834.

Manchester, a city in Lancaster co., England; on the Irwell, an affluent of the Mersey, 31 miles E. of Liverpool. It is the center of the cotton trade of Great Britain, and one of the principal manufacturing cities in the world. The manufacture of silk goods, which was introduced in 1816, has generally flourished since 1826, producing every description of fabrics from the rich brocade to the flimsy Persian. There are over 60,000 persons employed in the cotton mills, besides 7,000 skilled mechanics engaged in the production of steam engines, looms, and other machinery. In May 1894 the Ship Canal which makes Manchester a seaport was formally opened by the Queen, although it had been used for some months previous. The Canal is 35½ miles long, and wide and deep enough for ocean steamers drawing 26 feet to dock at the wharves. The total cost of the improvement was \$75,000,000, of which the city paid one-third. Pop. (1921) 730,551.

Manchester, William Angus Drogo Montagu, Duke of, an English nobleman; born in London, England, March 3, 1877. He was a son of the 8th duke and Consuelo Yznaga de Valle, of Louisiana. He succeeded his father in 1890, and on Nov. 14, 1900, married Helena, daughter of Eugene Zimmerman, of Cincinnati, O.

Manchineel, a tree 40 or 50 feet high, growing on the sandy coasts of the West Indian Islands, Venezuela, Panama, etc. It is very poisonous. If a single drop of the white juice fall upon the skin it will cause a wound extremely difficult to heal. The juice of the fruit similarly burns the lips of any one who bites it.

Manchuria (Chinese Sheng-King), a Chinese territory occupying the N. E. corner of the empire; it is divided into three provinces, Sheng-King, Feng-Tien, or Liao-tung in the S. (of which Mukden is the capital), Kirin in the center (with a capital of the same name), and Heilung-kiang in the N. (with capital Tsitsihar); total area, 363,610 square miles; pop. (1920) est. 20,000,000. The country is mountainous, but on the whole fertile. The climate is good; though the winters are severe, they are healthy and bracing. The vast forests of the N. are rich in useful timber of all kinds. The ad-

ministration is military, the governors of the two N. provinces being subordinate to the governor of Mukden. The Manchus are a hardy race and their country has long been the great recruiting ground for the Chinese army; but of late years vast numbers of Chinese proper have flocked into it, so that now they by far outnumber the native race. In the 17th century the Manchus invaded China and placed their leader's son on the throne. Since that time the Manchu dynasty has continued to reign in China, and the Manchu language has become the court and official language.

In 1894, during the Chino-Japanese War (see JAPAN), the Japanese occupied the Liao-tung Peninsula, but their conquest was annulled by the coercion of Russia, Germany, and France. In 1898, however, Russia leased Port Arthur and Talien-wan (now Dalny), the adjacent territories and waters for 25 years.

For a considerable time prior to 1891, when the first sod was turned for the construction of the great Siberian railroad, the Russian government had been anxious to secure control of this territory. On Nov. 9, 1901, the Russian Minister of Finance, announced the completion of this railroad from Transbaikal territory to Vladivostok and Port Arthur. Meanwhile in 1900, while the allied army was hastening to the relief of the legations in Peking (see BOXERS), a Russian military force occupied the right bank of the Amur river, and declared it to be Russian territory, and a provisional Russian administration was established. Official declarations were sent out from Petersburg to the effect that the current rumors of an incorporation of Manchuria with the Russian empire were groundless.

In October, 1903, however, Russia having failed to evacuate Manchuria on the 8th of that month, as promised, war with Japan ensued. See RUSSO-JAPANESE DISPUTE AND WAR. Since the war, China ostensibly regained possession of Manchuria, and threw open to international trade Hang-Chun, Kirin, Harbin, and Manchuri, Jan. 14, 1907. Japanese influence predominates in commercial relations.

Manco Capac, the founder and legislator of the Peruvian empire, sup-

posed to have flourished in the 12th century.

Mandaeans, an Oriental religious sect of great antiquity. Their religion is a kind of Gnosticism, retaining various Jewish and Parsee elements. They publicly call themselves Sabians, thus professing to identify themselves with the Sabaeans tolerated in the Koran.

Mandalay, the capital of Burma from 1860 to its annexation by India in 1886; situated in a level plain about two miles from the left bank of the Irrawaddy. Since the British occupation the town has been modernized. It suffered severely from fire in 1892. Pop. (1921) 148,970.



MANDRAKE.

Mandamus, a writ issued by a superior court and directed to some inferior tribunal, or to some corporation or person exercising public authority, commanding the performance of some specified duty.

Mandarin, a general term applied by foreigners to Chinese officers of every grade.

Mandeville, Sir John, the pen-name of JOHN OF BURGOYNE who lived in the 14th century, and compiled a remarkable book of apocryphal travels.

It is a most entertaining and curious compilation of legends, miracles and wonder-stories from many sources.

Mandingoes, a negro tribe of West Africa, remarkable for their intelligence, and generally for the advances they have made in civilization. The original country of this people, who are now spread over a great portion of West Africa, was the N. slope of the high table-land of Senegambia. They live in small independent states, their clay-built walled towns often containing about 10,000 inhabitants.

Mandolin, an Italian fretted guitar, so called from its almond shape.

Mandrake, a perennial herb. From the rude resemblance of the bifurcated root to the human figure many superstitious notions have gathered round this plant.

Mandrill, an African baboon. It was well known to the ancients. A full grown male measures about five feet when erect. Mandrills are insectivorous, and in addition to their immense canine teeth approach the Carnivora in many points of anatomical detail.

Manes, in Roman mythology, benevolent spirits, and generally speaking, the spirits of ancestors.

Mangan, James Clarence, an Irish poet; born in Dublin, Ireland, May 1, 1803. He died in Dublin June 20, 1849.

Manganese, a diatomic metallic element, proved to be distinct from iron, but the metal itself was first eliminated in 1744. It occurs chiefly in the form of peroxide (black oxide of manganese), and as sulphide and carbonate. Manganese enters into compounds both as a base and also as an acid radical. It forms several well characterized oxides.

The production of manganese ores in the United States in the calendar year 1915, amounted to 9,709 long tons, valued at \$113,309; imports, 320,778 tons, valued at \$2,655,980.

Manganese Bronze, a kind of bronze in which the copper forming the base of the alloy is mixed with a certain proportion of ferro-manganese, and which has exceptional qualities in the way of strength, hardness, toughness, etc.

Mango, an umbrageous tree, wild on the Western Ghauts, in the Chutia Nagpore Hills and the Naga Hills, and cultivated all over India. The fruit is considered one of the very best in India.

Mango Fish, known in India as the tupsee. Is found in the Bay of Bengal, ascending the Ganges and other rivers to a considerable extent. Its popular name has reference to its beautiful yellow color, resembling that of a ripe mango.

Mangold Wurzel, or **Mangel Wurzel**, a large-rooted species of beet cultivated chiefly as fodder for cattle.



MANDRILL.

Mangrove, a tree inhabiting the shores of the tropical parts of the world in either hemisphere, and well known to navigators on account of the dense groves which it forms, even down into the water itself.

Manhattan, one of the boroughs of the city of New York; is the parent settlement, built on the island of Manhattan, and the most important borough. Pop. (1930) 1,867,312.

Manhattan College, an educational institution in Manhattan borough of New York city; founded in 1853 under the auspices of the Roman Catholic Church.

Manheim, or **Mannheim**, a town and capital of the grand-duchy of Baden, circle of the Lower Rhine, at the confluence of the Neckar and the Rhine, 37 miles S. E. of Mainz. The

principal public buildings are the palace, containing museums of antiquities, natural history, etc., and a library of 80,000 volumes; the observatory, a noble building, with a curious tower 108 feet in height, and the custom house. Pop. (1925) 247,486.

Manifest, Ship's, a formal statement of a cargo for the use of the custom house officers, and usually containing a list of all the packages on board, with their distinguishing marks, numbers, and descriptions, all of which details are indicated by a printed form.

Manihiki Islands, a group of low, wooded atolls, scattered over the Central Pacific, between the Marquesas and Union groups; area, 12 square miles; pop. (1900) 1,000. Most of these islands belong to Great Britain.

Manila, the chief town of the Philippine Islands and capital of Luzon; on the E. side of a wide bay on the S. W. coast of Luzon, 650 miles S. E. of Hong Kong, with which city it has been connected by telegraph since 1881. It is divided into two portions by the Pasig river. On the S. bank stands the old town, founded in 1571, surrounded by crumbling walls, with tolerably wide, straight streets crossing each other at right angles. Here are the archbishop's palace, numerous churches and monasteries, the cathedral, university, Jesuit observatory, arsenal, and the barracks of the former Spanish garrison. On the N. bank are the modern suburbs, the commercial and native quarters, with the palaces of the former governor-general and the admiral of the station. The city is liable to visitations of earthquakes, typhoons, and thunderstorms. Pop. (1927 Est.) 320,394.

The native houses are generally constructed of bamboo and thatched with the leaves of the nipa palm. Glass is not used in the windows, but the translucent shell of a mollusk; and the window-frames all slide horizontally. This is to exclude the great heat, the mean for the year being 82° F.; but during the rainy season (May to November) it ranges from 65° to 68°. The principal industry is the manufacture of cigars, which employs about 25,000 persons. The harbor is not very safe during S. W. and N. E. winds, but since the American occupation it has improved. Large ocean-going vessels

Manila Bay

anchor at the naval station of Cavite, 2 miles to the S. W. A railway extends from Manila to Dagupan, a distance of 120 miles. The commerce of the Philippines, chiefly through Manila, in 1928 showed imports from the United States, \$77,324,193; and exports to the United States, \$110,832,758; imports from foreign countries, \$47,619,769; exports to \$39,168,151.

On the morning of May 1, 1898, after war had broken out between the United States and Spain, was fought the battle of Manila Bay. On May 4 Commodore Dewey seized the arsenal. Manila was invested by American troops, June 30, 1898, and on Aug. 13, after an organized attack by sea and land and two hours' hard fighting, it surrendered and the flag of the United States was raised over the city.

Manila Bay, Battle of, the victorious engagement of the American Asiatic squadron, under command of Commodore George Dewey, with a Spanish naval force, under command of Admiral Montojo, supported by land batteries, fought on May 1, 1898. When it became evident, in March, 1898, that war between the United States and Spain was inevitable, Commodore Dewey began to mobilize his vessels in the harbor of Hong Kong preparatory to striking a blow at the Philippine Islands on the breaking out of hostilities. By April 1 he had gathered there his flagship, the "Olympia," a steel protected cruiser; the "Boston," a partially protected steel cruiser; the "Raleigh," protected steel cruiser; the "Concord," steel gunboat; and the "Petrel," steel gunboat. Toward the close of the month, the "Baltimore," a steel protected cruiser, the "Hugh McCulloch," revenue cutter, and two newly-purchased ships loaded with coal and other supplies, joined the fleet. Lying in Manila Bay, one of the largest and most important in the world, was a Spanish squadron, comprising the "Reina Christina," steel cruiser; "Castilla," wood cruiser; "Velasco," iron cruiser; "Don Antonio de Ulloa," iron cruiser; "Don Juan de Austria," iron cruiser; "Isla de Ouba," steel protected cruiser; "Isla de Luzon," steel protected cruiser; "General Lezo," gunboat; "El Cano," gunboat; "Isla de Mindanao," auxiliary cruiser; "Marques

Manitoba

del Duero"; and two torpedo boats. It was supposed that the harbor had been planted with mines and torpedoes and supplied with numerous searchlights, and that the forts on the shore had been strengthened in anticipation of an attack.

The United States squadron entered the bay on the night of April 30, and at 5 o'clock on Sunday morning, May 1, opened fire on the Spanish squadron and the forts. Two engagements were fought, and during the brief interval the United States squadron drew off to the E. side of the bay to enable officers and men to get their breakfast. The entire battle lasted less than two hours. The Spanish flagship, "Reina Christina," was completely burned; the "Castilla" suffered the same fate; the "Don Juan de Austria" was blown up by a shell from one of the United States vessels; one or more ships were burned; and the entire Spanish fleet was destroyed. After his second attack, in which he destroyed the water battery at Cavite, Commodore Dewey anchored off the city of Manila and sent word to the governor-general that if a shot was fired from the city at the fleet, he would lay Manila in ashes. The Spanish loss was about 2,000 officers and men. The United States squadron did not lose a ship or a man.

Man in the Iron Mask. See MARCHIALI.

Manis, a genus of edentate mammals covered with large, hard, triangular scales with sharp edges, and overlapping each other like tiles on a roof; are often called Scaly Lizards. Scaly Ant-eaters, or Pangolins. See PANGOLIN.

Manito, or **Manitou**, among some American Indians the name given to a spirit, god, or devil, or whatever is an object of religious awe or reverence.

Manitoba, a province of the Dominion of Canada; bounded on the N. by Keewatin, E. by Keewatin and Ontario, S. by the United States, W. by Saskatchewan; area, under the Boundary Extension Act of 1912, 251,832 square miles; pop. (1930) 671,500; capital, Winnipeg, pop. of the city municipality, (1930) 212,000.

The greater part of the province consists of prairie land, in a series of levels known as "steppes" or

Landscape

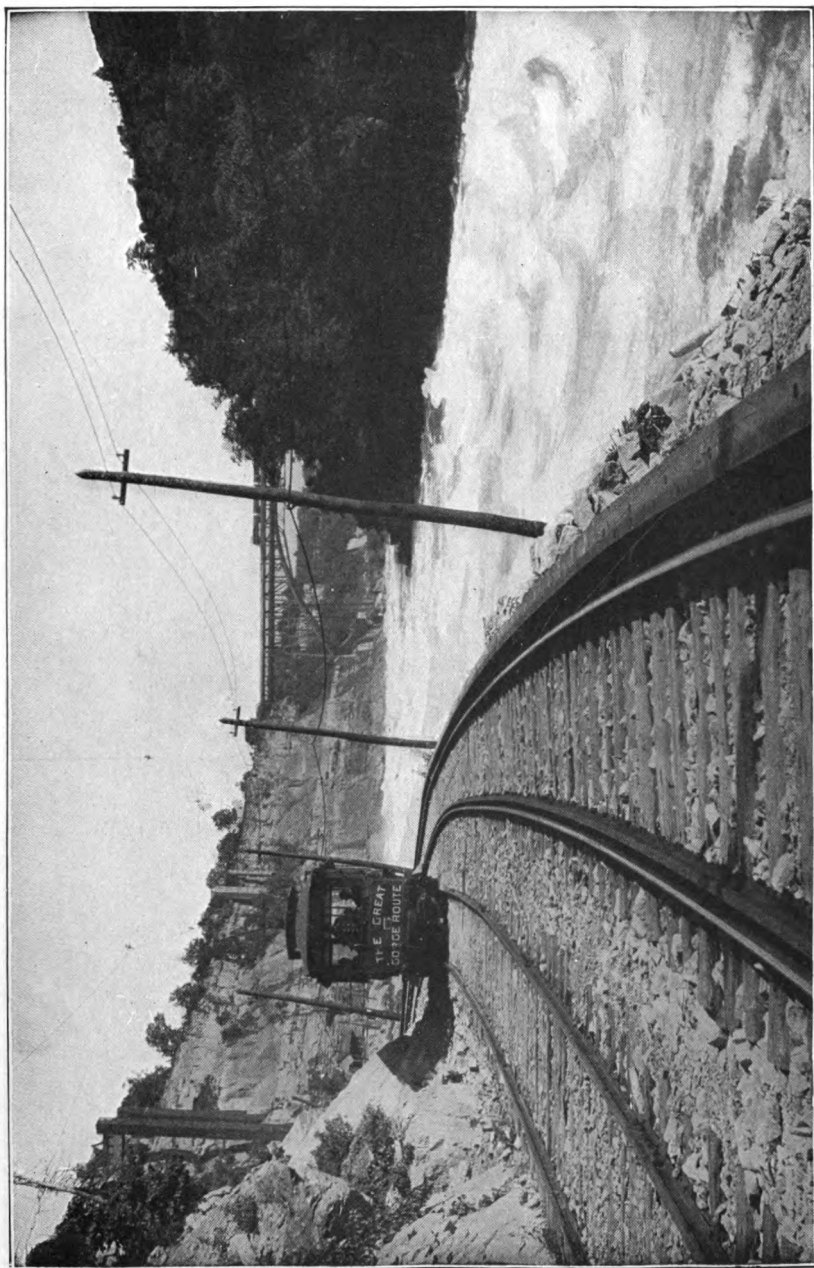
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GREAT GORGE ROUTE, NIAGARA FALLS



"benches" and dotted with growths of deciduous trees, and about 30 miles E. of Winnipeg begins a swampy district, in which are occasional elevations of ground covered with cedar, spruce, white pine, aspen, cottonwood, balsam-willow, and tamarack. There are a few mountains of low elevation. The lakes, which are numerous, include Lake Winnipeg, Lake Winnipegosis, Lake Dauphin, and Lake Manitoba. The chief rivers are the Winnipeg, Assiniboine, and Red. The climate in winter is cold, the mercury sometimes falling to 50° below zero; but the province has few violent storms, and is healthful. The summer months are part of May, June, July, August, and September.

The soil is generally a rich black mold, resting partly on a limestone formation and partly on a thick stratum of hard clay. There is a luxurious growth of all kinds of vegetables and roots known to temperate climates.

The affairs of Manitoba are directed by a lieutenant-governor, appointed for a term of five years by the Governor-General-in-Council. The province was represented in the Dominion Parliament (12th), 1910-16, by 6 senators, appointed for life by the Governor-General-in-Council, and by 10 members of the House of Commons, which number was increased in the 13th Parliament to 15. Each member of the Senate receives \$2,500 per annum, and each member of the Commons a maximum of \$2,500 per session, with deductions for non-attendance. The judiciary includes a chief-justice, three judges of the Court of King's Bench, and three county judges.

In 1930 Manitoba's field crop yield was 154,335,000 bus., and the value of her chief crops was \$54,139,000; there were 53,252 occupied farms comprising 14,441,597 acres; the total livestock value was \$66,472,000.

Development of mining operations broke all records in 1929, and production value was \$5,423,825. In 1930 there were 5,307 miles of railways in operation and an industrial revenue amounting to \$357,862,080.

In 1769 English fur traders visited this region. These companies were united in the Hudson Bay Company. Manitoba was first settled about 1812, on the W. bank of the Red river, 4

miles N. of the present site of Winnipeg. In 1836 the territory was repurchased by the Hudson Bay Company, and was sold in 1867 for \$1,500,000 to the British government, which then transferred it to Canada. In 1870, under a law of the Canadian Parliament called the Manitoba Act, the province began its constitutional life. The French settlers, discontented by the transfer of the province, formed a provisional government headed by Louis Riel. On the arrival of a British military expedition Riel fled to the United States, and opposition to Canadian rule collapsed. With the completion of the Canadian Pacific railway in 1886, Manitoba entered upon a new era.

In 1884-85 Riel again sought to excite rebellion, and was captured, tried, and executed for treason, Nov. 16, 1885, at Regina, Northwest Territory.

Manitoba Lake, a lake of Canada, province of Manitoba, 30 or 40 miles S. W. of Lake Winnipeg; length about 120 miles; breadth about 25 miles; area, 1,900 square miles.

Manitou Caverns, a group of caves near Manitou Springs, Col. They were discovered by George W. Snider in 1881, but were only opened to the public in 1885. Unlike the Mammoth Cave or the Luray Caverns of Virginia, these caverns are located amid superb scenery.

Manitoulin Islands, a chain of islands in Lake Huron, separating it from Georgian Bay. The principal are Grand Manitoulin (80 miles long and 28 wide), Cockburn Isle, and Drummond Isle; the last belongs to the State of Michigan, the rest to Ontario. Pop. about 2,000.

Manjak, a mineral discovered on the island of Barbadoes, in the Lesser Antilles. It is of a lustrous black color and as a fuel surpasses coal and all substances heretofore known. It is thought that manjak is petrified petroleum, great quantities of petroleum being found on the same island.

Manly, John, an American naval officer; born in Torquay, England, in 1733. He received a naval commission from Washington in 1775. Invested with the command of the schooner "Lee," he kept the hazardous station of Massachusetts Bay, during a most

tempestuous season, and the captures which he made were of immense value at the moment. An ordnance brig, which fell into his hands supplied the Continental army with heavy pieces, mortars, and working tools, of which it was very destitute, and led to the evacuation of Boston. Being raised to the command of the frigate "Hancock," of 32 guns, his capture of the "Fox" increased his high reputation for bravery and skill. He was taken prisoner by the "Rainbow," July 8, 1777, and suffered a long and rigorous confinement on board that ship. He died in Boston, Mass., Feb. 12, 1793.

Mann, Henry, American journalist and author; born in Glasgow, Scotland, March 25, 1848; served at 16 in 82d and 59th New York volunteers in Civil War; in 13th and 31st United States Infantry in the Northwest; Justice of the Peace and member of the Town Council and Court of Probate of North Providence, R. I., 1886-87; assistant editor New York "Sun," Providence "Journal," and New York "Press," editor-in-chief Providence "Telegram." Wrote "Ancient and Mediæval Republics," "The Story of Our Country," and other books on historic and economic subjects.

Mann, Horace, an American educator; born in Franklin, Mass., May 4, 1796. He was member of Congress from Massachusetts in 1848-1853; president of Antioch College in 1852-1859. He died in Yellow Springs, O. Aug. 2, 1859. Horace Mann's great work was the revival of the common school system, which had greatly degenerated in practice from the original views of the Pilgrim Fathers. In his diary and in numerous letters he presented for nearly every town he visited the same dark picture of apathy or open opposition on the part of the people, and of ignorance and incompetency in the teachers. His reports stirred the public to the need of reform. "His twelve annual reports," says Dr. Louis Albert Banks, in the "Hall of Fame," published by "The Christian Herald," "are an enduring monument of well directed zeal in the public service, of comprehensive and practical views of educational improvement, of a thorough appreciation of the degraded condition of the schools, and of his power as

a master of the English language." He awakened the dormant conscience of the old Bay State and the free schools of Massachusetts took rank among the best in the world, and the whole nation felt the impulse thus given to the cause of education. He has a place in the Hall of Fame of New York University.

Manna, "a small round thing, as small as the hoar frost," which lay on the face of the wilderness every morning except on the Sabbath, sent by Jehovah as bread rained from heaven and continued during the whole 40 years of the Israelite wanderings in the wilderness. It melted when the sun became hot, and if left till next day decomposed.

Manning, Daniel, an American financier; born in Albany, N. Y., May 16, 1831; began life as a printer and a reporter on the Albany "Argus"; became president of the Argus Company, and a prominent Albany banker and politician. In 1885 he was chosen Secretary of the Treasury in the cabinet of President Cleveland, but resigned in 1887, and died in Albany, N. Y., Dec. 24, of that year.

Manning, Henry Edward, an English clergyman and writer; born in Totteridge, Hertfordshire, July 15, 1808. Originally a clergyman of the Church of England, he became a Roman Catholic priest in 1851; Archbishop of Westminster in 1865; cardinal in 1875. He founded the Roman Catholic University in Kensington in 1874. He died in Westminster, Jan. 14, 1892.

Manning, Jacob Merrill, an American clergyman; born in Greenwood, N. Y., Dec. 31, 1824; was graduated at Amherst College in 1850, and at Andover Theological Seminary in 1853; ordained in the Congregational Church in 1854; became assistant pastor of the Old South Church, Boston, Mass., in 1857; and was its pastor in 1872-1882. He died in Portland, Me., Nov. 29, 1882.

Manœuvres, or **Manœuvres**, the movements and evolutions of any large body of troops or fleet of ships, for the purpose of testing the efficiency of the various bodies of the service under the conditions of actual warfare, and for the purpose of instructing officers

and men in their various duties.

Man of Ross. See KYRLE, JOHN.

Manor. In English law, a lordship or barony held by a lord and subject to the jurisdiction of a court-baron held by him.

Mansard, a style of roof, also called the French curb, or hip-roof; named after a French architect, who invented it. It was designed to make the attics available for rooms, in consequence of a municipal law limiting the height of front walls in Paris.

Mansfield, city and capital of Richland county, O.; on the Baltimore & Ohio railroad; 54 miles S. of Sandusky; in a rich farming section; is the seat of the Ohio State Reformatory; and manufactures foundry products, electrical machinery, plumbers' supplies, watch-cases, street cars, paper and brass goods. Pop. (1926) and brass goods. Pop. (1930) 33,525.

Mansfield, Edward Deering, an American journalist; born in New Haven, Conn., Aug. 17, 1801. He was for many years a contributor to the New York press over the signature "Veteran Observer." Died in 1880.

Mansfield, Richard, an American actor; born on the Island of Heligoland, North Sea, in 1857; first studied art, but afterward prepared for the stage; came to the United States and appeared at the Standard Theater, New York. He became very successful in many plays, and a leader of the American stage. Died Aug. 30, 1907.

Mansfield, William Murray, Earl of, a Scotch jurist; born in Scone, Scotland, March 2, 1705; was called to the bar in 1731. In 1742 he was appointed solicitor-general, and obtained a seat in Parliament about the same time. In 1754 he was attorney-general, and in 1756 he was appointed chief justice of the King's Bench, and made Baron Mansfield. In 1776 he was advanced to the dignity of earl. He frequently refused high office, notably that of chancellor. In 1788 he resigned his office of chief justice; and the remainder of his life was spent in retirement. He died in London, England, March 20, 1793.

Mansion House, the official residence of the Lord Mayor of London; built on the site of the Old Stock Market in 1739, at a cost of \$213,190.

Manslaughter, the slaughter or killing of a human being or beings; homicide.

Mantegna, Andrea, an Italian painter; born in Padua, Italy, in 1431. Mantegna excelled in perspective, which was then a rare merit; he introduced the art of engraving on copper into Upper Italy. He died in Mantua in 1506. His two sons, Francesco and Carlo, were also painters.

Mantell, Gideon Algernon, a British palaeontologist; born in Lewes, Sussex, England, in 1790. To him we owe the discovery and description of the four great Dinosaurian reptiles, the Iguanodon, Hylæosaurus, Pelorosaurus, and Regnosaurus. He died in London, Nov. 10, 1852.

Manteuffel, Edwin Hans Karl, Freiherr von, a Prussian soldier; born in Dresden, Feb. 24, 1809. Entering the Prussian guards in 1827 he rose to be colonel by 1854, and three years later was nominated head of the military bureau at Berlin, a post which he held till 1865. He entered the war of 1870 as commander of the First Corps, but was soon promoted to the command of the first army, which fought successfully at Amiens and other places. When peace was proclaimed he was placed at the head of the army of occupation in France, and in 1879 was appointed imperial viceroy of the newly organized provinces, Alsace-Lorraine. He died in Carlsbad, Bohemia, June 17, 1885.

Mantis, the so-called soothsayer, or praying insect. They are very pugnacious; the Chinese are said to keep them in cages and match them against each other.

Mantua, a strongly fortified city of Lombardy, Italy, one of the Quadri-lateral, and the capital of a province, 80 miles E. S. E. of Milan. It was an ancient Etruscan city. A small but elegant cathedral is the chief building. Pop. (1915) 34,507.

Manual Training, in modern education, the training of the hand and eye in the use of typical tools, suitable materials, and mechanical methods, as well as in practical drafting, including the best methods of both freehand and accurate instrumental drawing of various objects.

Manuel II., former King of Portugal; born in Lisbon, Nov. 15, 1889; second son of King Carlos I; succeeded to the throne on the assassination of the King and Crown Prince in Lisbon, Feb. 1, 1908; was dethroned in a popular uprising at the capital, Oct. 5, 1910, when a republic was established; and escaped to British soil.

Manufactures. The statistics of manufactures in the United States, issued by the Census Bureau for the full year 1904, were confined to factory system plants, thus excluding small shops and individual artisans. This fact should be borne in mind when comparing statistics of different census periods. The 1925 report showed: Establishments, 187,390; the average number of wage earners, 8,384,261; wages, \$10,729,968,927; cost of materials, \$35,955,647,704; and value of products, \$62,713,713,730; an increase of \$2,257,715,530 since 1923.

Manumission, in ancient Rome, the form by which slaves were released from their conditions; so called because they were sent, as it were, out of the hand or power of their master.

Manures, vegetable, animal and mineral substances used to improve the natural soil, and increase the production of crops; or to restore to it the fertility which is diminished by the crops carried away annually. Almost every kind of decaying vegetable and animal matter is used. The chemical and mineral manures comprise phosphates, sulphates, nitrates, lime, etc.

Manuscripts, writings of any kind, whether on paper or any other material, in contradistinction to printed matter. Previous to the introduction of printing, all literature was contained in manuscripts written on papyrus and later on parchments; the deciphering and proper use of these form an important part in the science of palæography.

Manutius, Aldus, or Aldo Manuzio, an Italian printer; born in Sermonetta, Italy, about 1447. In 1483 he established himself as a printer at Venice, but the first work which he finished was not published till 1494. He was the inventor of the italic or cursive character, hence called "Aldine." He died in Venice, Feb. 6, 1515.

Manzano, Juan Francisco, a Cuban poet; born in Havana, Cuba, in 1797. A negro, born in slavery, and remaining in servitude for 40 years he obtained his education with great difficulty. While still a slave he succeeded in publishing a small volume of poems entitled "Passing Flowers." He died in 1854.

Map, a representation of a portion of the earth's surface, or of a portion of the heavens on a plane.

Maple, a name for trees of the genus *Acer*, peculiar to the N. and temperate parts of the globe. About 50 species are known, distributed through Europe, North America, and different parts of Asia. The sugar or rock maple is the most important American species; this yields maple sugar, which in many parts of North America is an important article of manufacture. The knotted parts of the sugar-maple furnish the pretty bird's-eye maple of cabinet makers.



MARABOU.

Maqui, an evergreen or sub-evergreen shrub, of considerable size, a native of Chile. The Chileans make a

wine from its berry. The wood is used for making musical instruments, and the tough bark for their strings.

Marabou, the popular name for at least two species of storks, the vent feathers of which were formerly much esteemed as ornaments and for ladies' headdresses.

Maracaibo, or **Maracaybo**, a city of Venezuela, on the W. shore of the strait which connects the lake and gulf of Maracaibo. It is a handsome town. The climate is hot, the soil sandy, and the place unhealthy, owing mainly to the unsanitary domestic arrangements. A fort defending the entrance to Maracaibo was bombarded by the Germans in 1903 during the allied blockade of Venezuelan ports. Pop. (1925 Est.) 100,000.

Maracaibo, Gulf of, or **Gulf of Venezuela**, a wide inlet of the Caribbean Sea, extending from the peninsulas of Paragana and Guajira to the strait by which it is connected with the lake.

Marajo, an island between the estuaries of the Amazon and Para.

Marat, Jean Paul, a French revolutionist; born in Baudry, Neufchatel, Switzerland, May 24, 1744. In his youth he applied himself to the study of medicine and anatomy; and settling in Paris, attracted notice as an empiric and vender of medicines. He was president of the Jacobin Club, and signed the address instigating the people to rise and massacre all traitors. The fall of the Girondists was a triumph for him and his friends, but he was assassinated shortly after by Charlotte Corday (q. v.), July 13, 1793.

Marathi, a language of Southern India, closely allied to Sanskrit and written in the Sanskrit character. It is the vernacular of some sixteen millions of people, mostly in Hyderabad and Bombay.

Marathon, a village on the E. coast of ancient Attica, 22 miles from Athens, long supposed to be the modern Marathon. It stood in a plain 6 miles long and from 3 to 1½ miles broad. The name of Marathon is gloriously memorable as the scene of the great defeat of the Persian hordes of Darius by the Greeks under Miltiades (490 B. C.)—one of the decisive battles of the world.

Marble, a popular name for any limestone which is sufficiently hard to take a fine polish; any calcareous or even any other rock which takes a good polish and is suitable for decorative or architectural purposes. The value of the production of marble in the United States is about \$8,000,000 per annum, Vermont, Georgia, Tennessee, New York, and Massachusetts leading.

Marblehead, a seaport and township of Essex co., Mass., 12 miles N. E. of Boston, on a rocky point projecting into Massachusetts Bay. It has a safe and deep harbor, and is a popular resort. Pop. (1930) 8,685.

Marburg, a quaint old town in the Prussian province of Hesse-Nassau, situated on the Lahn, 50 miles N. of Frankfort. In its Rittersaal was held in 1529 the conference between the Wittenberg and the Swiss reformers on the Lord's Supper. Pop. (1919) 25,400.

Marcellus, M. Claudius, a Roman general and member of one of the most eminent plebeian families. In his first consulship (222 B. C.) he defeated the Insubrian Gauls. In the second Punic war Marcellus took command after the disaster of Cannæ, and put a check on the victorious Hannibal at Nola, in Campania (216 B. C.). Again consul in 214 B. C., he gave a fresh impulse to the war in Sicily. In his fifth consulship, 208 B. C., he fell in a skirmish against Hannibal.

March, the first month of the Roman year, and the third according to our present calendar, consisting of 31 days. It was considered as the first month of the year till the change of style in 1752, and the legal year was reckoned from March 25.

Marchand, Jean, a French military officer; born in Thoissey, Aisne, France, Nov. 22, 1863. After a brief experience as clerk to a notary he entered the army in 1883. He spent some time in a military school, and was then sent to Africa, where later he distinguished himself. When France obtained control of French Kongo she sent Colonel Liotard to the Upper Ubangi region to look after French interests. Captain Marchand was afterward appointed one of his subordinates, with special instructions to push on toward the Nile. These in-

structions he carried out, and in 1898 arrived at Fashoda, where he came into conflict with the British forces who had overthrown the Mahdi, and was obliged to withdraw. He was made major, but resigned in 1904.

Marchand, Felix Gabriel, a Canadian statesman; born in St. John's P. Q., Jan. 9, 1832. He was for years prominent in public life, and leader of the Liberals in the Provincial Assembly of Quebec.

Marchesi, Mathilde, a celebrated German-French vocal teacher; born at Frankfort-on-Main, in 1826. She died Nov. 18, 1913.

Marchiali, or Marchialy (The Man in the Iron Mask), a mysterious state prisoner in France, who always wore a black velvet mask which completely concealed his face. He was at first confined at Pignerol in 1679; thence removed to Exilles in 1681; to the island of St. Marguerite in 1687; and finally, Sept. 18, 1698, to the Bastille, where he died Nov. 19, 1703. He was everywhere attended by M. de St. Mars; and though the slightest attempt on his part to reveal his real name would have met with instant death, he was uniformly treated with the greatest courtesy and indulgence. Various attempts have been made to ascertain the identity of the Man in the Iron Mask. It is now generally admitted, though without satisfactory evidence, that the mysterious prisoner was Count Mattheoli, minister of the Duke of Mantua. Having broken faith with Louis XIV., Count Mattheoli was lured to the French frontier, arrested, May 2, 1679, and imprisoned.

Marcomanni, a name meaning Men of the Marches, or Frontiers, or Borderers, and given by the Romans to various tribes on the confines of Germany. Some hordes under this name were driven out of Gaul by Julius Cæsar, 58 B. C. Marobodnus formed a league against these tribes, and concluded a treaty with Tiberius in the year 6. In alliance with other tribes they invaded the Roman empire in 166, when a war commenced which was not brought to a close till 180. The last notice of the Marcomanni is in 451, when they formed a contingent of the army with which Attila invaded Gaul and Italy.

Marconi, William, an Anglo-Italian electrician; born in Griffone, near Bologna, Italy, April 25, 1874. He began experimenting in wireless telegraphy under Professor Righi, and in 1896 his first English exhibition was given in private. He endeavored to induce the U. S. government to buy the right to use his system, but did not succeed, as what was regarded as a superior system had been perfected by the Signal Service. Various European navies, however, adopted it. In 1900 his system was used in the United States in reporting election returns; in 1901 and 1903, in reporting the America's Cup races; in 1902 he established wireless communication between the United States and Europe; in 1906 invented a continuous wave system; in 1909 was awarded one-half of the Nobel Prize for physics; and in 1917 was a member of the Italian Mission to the United States.

Marcon, Jules, an American geologist; born in Salins, France, April 20, 1824; received a collegiate education; traveled in Switzerland, where he met Jules Thurmann, with whom he was afterward associated in the geological survey of the Jura Mountains. While in this work he made the acquaintance of Louis Agassiz, who invited him to the United States, and whom he assisted on his survey of the Lake Superior region in 1848. He then studied the geology of New Jersey, Pennsylvania, the Mammoth Cave, Virginia, and the Canadian provinces. In 1853 he entered the service of the United States government; was the first geologist to cross the American continent; and on this trip drew a section map of the 35th parallel from the Mississippi river to the Pacific Coast. He died in Cambridge, Mass., April 17, 1898.

Marcey, Randolph Barnes, an American military officer; born in Greenwich, Mass., April 9, 1812; was graduated at the United States Military Academy in 1832; and was assigned to the frontier, where he served in the Black Hawk War. During the Mexican War he took part in the actions of Palo Alto and Resaca de la Palma; was promoted captain in May, 1846, and assigned to the recruiting service; made inspector-general, U. S. A., with the rank of colonel, in Au-

gust, 1861; and served as chief of staff to Gen. G. B. McClellan during part of the Civil War. He was appointed Brigadier-General of volunteers, Sept. 23, 1861; inspected the departments of the Northwest, Arkansas, Missouri, Mississippi, and the Gulf till 1865; was inspector-general, U. S. A., from December, 1878, to January, 1881, when he was retired. He died in Orange, N. J., Nov. 22, 1887.

Mardi Gras, Shrove Tuesday, the last day before Lent. In the United States the day is observed with great ceremonies, especially in New Orleans and Memphis.

Mare Island, an island in San Pablo Bay, Cal., 28 miles N. of San Francisco. Here are located a United States naval arsenal and dockyard. The vessels for conveying troops and materials to the Philippines were fitted out at this station.

Maretzek, Max, an American-composer, author, and operatic manager; born in Brunn, Austria, June 28, 1821; graduated at the University of Vienna. He became a skillful orchestral conductor, and came in 1848 to the United States, where he entered upon his career as an impresario. In 1858 he introduced Adelina Patti to the American public; in 1872 brought out Pauline Lucca. His opera "Sleepy Hollow," and his book "Crotchets and Quavers," are notable. He died in Staten Island, New York, May 14, 1897.

Margarita, an island in the Caribbean Sea, belonging to Venezuela; area, 380 square miles; forms the great part of the Nueva Esparta section of the State of Guzman Blanco. Discovered by Columbus in 1498.

Margay, a feline from Brazil and Guiana, where it is known as the tiger cat. It is smaller than the ocelot to which it has a general resemblance, thought it is not so handsome. It is capable of domestication, and is a capital ratter.

Margrave, originally a commander intrusted with the protection of a mark, or country on the frontier. The Margraves acquired the rank of princes, and stood between counts and dukes in the German empire.

Maria da Gloria, Queen of Portugal, daughter of the Emperor of

Brazil, Dom Pedro I., by his first consort, the Archduchess Leopoldine of Austria; born in Rio de Janeiro, April 4, 1819. On the death of her grandfather, John VI., she was designated successor to the crown of Portugal. Dom Miguel, her uncle, accepted the regency, but ere she arrived in Portugal, declared himself King. Her father successfully attacked Dom Miguel by land and sea, and he was caused to submit (1834). Maria's first husband died a few months after their marriage, and in 1836, she married Duke Ferdinand, of Saxe-Coburg. Her son the crown prince, succeeded as Pedro V. She died in Lisbon, Nov. 15, 1853.

Maria Louisa, Empress of the French; second wife of Napoleon I.; born in Vienna, Austria, Dec. 12, 1791. She was the eldest daughter of Francis I., Emperor of Austria, and of his second wife, Maria Theresa of Naples. In 1810 she was married to the emperor, then in the zenith of his power; in 1811 she presented her husband with a son, to the great joy of the French nation; and, in 1813, on his departure to the army, she was nominated regent. In 1814 she refused to accompany Napoleon to Elba, and having obtained, by treaty with the allied powers, the duchies of Parma and Placentia, etc., she repaired thither. She died in Parma, Italy, Dec. 17, 1847. It is probable that she never really loved Napoleon, and her conduct when he began to decline was most heartless.

Maria Theresa, Queen of Hungary and Bohemia, Archduchess of Austria, and Empress of Germany, daughter of the Emperor Charles VI.; born in Vienna, May 13, 1717. In 1736 she married Duke Francis Stephen of Lorraine, who in 1737 became Grand-Duke of Tuscany. The day after her father's death, in 1740 she ascended the throne of Hungary, Bohemia, and Austria, and declared her husband joint ruler. Assailed by powerful foes she maintained long and costly wars in successful defense of her dominions. She died in Vienna, Nov. 29, 1780.

Mariazell, the most famous place of pilgrimage in Austria, in the extreme N. of Styria, 60 miles from Vienna. It is visited by thousands of pilgrims annually. The image of the

Virgin, the object of the pilgrimages, is enshrined in a magnificent church.

Marie Antoinette. See ANTOINETTE, MARIE.

Marie de Medici, the daughter of Francis II. of Tuscany; born 1573; married in 1600 to Henry IV. of France. On the assassination of Henry she became regent, but proved utterly incompetent to rule. Her partiality for unworthy favorites caused her deposition and imprisonment. She became reconciled to her son, the weak Louis XIII., through Richelieu, who had possessed himself of the highest power, but was again imprisoned at Compiègne in 1630. Thence she escaped, and after wandering through several countries died in misery at Cologne (1642).

Marie Galante, an island in the West Indies, belonging to France, 5 leagues from Guadeloupe, of which it is a dependency. The chief productions are sugar, coffee, tobacco, indigo, and cotton. Pop. 15,017.

Marienbad, one of the most frequented and picturesque of the Bohemian watering-places, about 24 miles from Carlsbad, with saline and purgative springs. Pop. (1919) 7,000.

Marienburg, a town in Prussia, in the government of Danzig and 27 miles S. E. of the city of that name on the Nogat. It was once the seat of the Knights of the Teutonic Order and contains the fine castle of the grand-masters. Pop. (1919) 15,600.

Marienwerder, a town of West Prussia, on a height near the confluence of the Vistula and Nogat, 43 miles S. S. E. of Danzig. It has an ancient and handsome cathedral and an old castle partly used as a courthouse and a prison. Pop. (1919) 14,200.

Marietta, a town of the United States, in Washington County, O.; seat of Marietta College. Pop. (1930) 14,285.

Marietta College, a coeducational non-sectarian institution in Marietta, O.; founded in 1835.

Marigold, a name of several composite plants. The common marigold is an annual, from one to two feet high, with large deep-yellow flowers. The so-called African marigold and French marigold, common in flower-

borders, are both Mexican species, and have brilliant flowers.

Marines, troops enlisted for service either on board ship or on shore.

Marion, city and capital of Marion county, O.; on the Pennsylvania railroad; 45 miles N. of Columbus; has very important manufacturing, livestock, lime and stone interests. Home and burial place of the late President Harding. Pop. (1930) 31,084.

Mario, Giuseppe, an Italian tenor; born in Cagliari, Sardinia. A youthful escapade led to his forsaking Italy for Paris, where he was appointed first tenor of the opera, changing his name at the same time from De Candia to Mario. After two years' study at the Conservatoire Mario made his debut, Dec. 2, 1838, and achieved the first of a long series of operatic triumphs in Paris, London, St. Petersburg, and the United States. He died in Rome, Dec. 11, 1883.

Marion, city and capital of Grant county, Ind.; on the Mississinewa river and several railroads; 67 miles N. E. of Indianapolis; has a National Soldiers' Home, Normal College, and has a number of factories producing rolled and malleable iron, insulated wire, strawboard, glassware, and furniture. Pop. (1930) 24,496.

Marion, Francis, an American military officer; born near Georgetown, S. C., in 1732. His education was very limited; he was brought up as a farmer. At the outbreak of the Revolutionary War, in 1775, he was elected to Congress, but shortly afterward obtained the command of a company in the regiment of Col. William Moultrie, taking a conspicuous part in the capture of Fort Johnson and in the defense of the forts at Dorchester and Sullivan's Island. In 1777 he was dispatched with 600 men to the defense of Georgia, where he served till that State was overrun by the British. He then gathered a band of young patriots about him, and formed that brigade which afterward became famous. He disbanded his brigade in 1782, and taking leave of his followers, by whom he was beloved, returned in almost a state of poverty to his original vocation as a farmer. He died in Pond Bluff, S. C., Feb. 27, 1795.

Marius Caius, a Roman soldier; born near Arpinum, Italy, about 155 B. C. He was one of the first generals of his time, and served seven times as consul. After his defeat by Sylla, he was taken prisoner, but the soldier sent to behead him was so overcome by his commanding appearance that he did not dare to use the sword. Marius again became master of Rome, and the bloody proscriptions which have consigned the name of Marius to infamy took place, exceeding all that was previously recorded in Roman history. Caius Marius served as consul for the seventh time, and the same year, 86 B. C., on hearing that Sylla was approaching, he endeavored to drown care in wine, and is supposed to have killed himself with excess.

Marjoram, a genus of plants; is found in Europe, in the N. part of Africa, and Asia. The dried leaves are used instead of tea.

Mark, the evangelist whose name is prefixed to the second Gospel. He was almost certainly the same as the "John whose surname was Mark," mentioned in Acts xii: 12, 25. The name John was Jewish; Mark (Marcus) was Roman. John Mark's mother lived at Jerusalem, her house being a resort of Christians. He was nephew, cousin, or other relative of Barnabas. He seems to have been converted by Peter, and also to have been the young man so nearly captured on the evening of our Lord's betrayal. On the first missionary journey of Paul and Barnabas he went as their minister, but, while they were at Perga, left them and returned to Jerusalem. Paul considering him fickle would not accept him as an attendant; while Barnabas, his relative, believed him thoroughly trustworthy. In consequence of this difference of opinion, Paul and Barnabas separated, Paul going in one direction on a mission tour, and Barnabas, accompanied by Mark, on another. Ultimately Mark gained anew the good opinion of Paul, and attended on him during his final imprisonment.

The Gospel according to St. Mark: The second of the Gospels, almost universally attributed to the John Mark of this article. The writer was evidently a Jew, or at least familiar with

Judea; but his Gospel was specially designed for the Gentiles. Except in recording the discourses of Jesus, he nowhere shows that any incident narrated fulfilled Old Testament prophecy, and the term "law," in the sense of the Mosaic law, nowhere occurs. Statements likely to give offense to the Gentiles are also omitted. His Gospel seems to have been written at Rome. Mark records the miracles more than the discourses of Jesus. His style is more precise and graphic than that of the other evangelists. The characteristics of the Gospel confirm the tradition that it was composed under the superintendence of Peter. It is probably the earliest of the Gospels.

Markham, Sir Clements Robert, an English geographer; born in Stillingfleet, England, July 20, 1830. He accompanied an Arctic expedition in 1851; visited India to introduce cinchona plants into the country in 1860. He died Jan. 30, 1916.

Markham, Edwin, an American poet; born in Oregon City, Or., April 23, 1852; settled in California in 1857, and worked there during boyhood principally as a blacksmith. His "Man with the Hoe" was extensively republished and gave him wide fame.

Markirch (Ger., SAINT-MARIE-AUX-MINES, Fr.), a town in Upper Alsace, in the valley of the Leber; commands one of the passes of the Vosges Mountains; is famous for its textile and dye works; was the scene of desperate fighting in the early part of the World War. Pop. about 15,000.

Mark Twain. See CLEMENS.

Marlborough, John Churchill, Duke of, an English soldier and statesman; born in Ashe, Devonshire, England, June 24, 1650. He was the son of Sir Winston Churchill, a devoted adherent of Charles I. After receiving a defective education he was placed, at the age of 12, as page in the household of the Duke of York. His passion for the life of a soldier was not long in showing itself. Continuing in the service of the Duke of York, Churchill married, about 1680, the beautiful and accomplished Sarah Jennings, favorite of the Princess (afterward Queen) Anne. In 1689 he received the command of the English

forces in the Netherlands, and after a brief service in Ireland was recalled to Flanders in 1691. Suspected of a traitorous correspondence with James II., he was deprived of his command and imprisoned in the Tower; and though shortly released was not restored to the favor of the king till 1697. On the breaking out of the War of the Spanish Succession, in 1700, he received the chief command of the forces in the United Provinces, and was named ambassador to France. Marlborough was now to enter upon that career of military achievement which established his reputation as a general. As commander-in-chief of the allied forces he took several places in the Netherlands in 1702; with the Imperialists, under Prince Eugene, gained the victory of Blenheim in 1704, for which he was made a duke and a sum voted to build the palace of Blenheim. Marlborough afterward defeated Marshal Villeroi at Ramillies in 1706, and closed the brilliant series of his victories by those of Oudenarde in 1708, and Malplaquet in 1709. To escape the disquietude of a life at home he went abroad with his duchess. Returning in 1714, George I. restored him to his offices, but he was soon after compelled by an attack of apoplexy to withdraw from public life. He died June 16, 1722.

Marlowe, Christopher, an English poet and dramatist; born at Canterbury, 1564, and educated at Cambridge, whence he proceeded M. A. in 1587. He afterwards settled in London, and became an actor as well as a writer for the stage. Besides six tragedies the best known of which are "Tamburlaine the Great," "Edward II.," "Dr. Faustus," and "the Jew of Malta," he left a translation of the "Rape of Helen," by Coluthus; some of "Ovid's Elegies;" the first book of "Lucan's Pharsalia;" and the "Hero and Leander of Musæus," completed by George Chapman. Died in 1593 from a wound received in a quarrel.

Marmont, Auguste Frederic Louis Viesse de, a French military officer; born in Chatillon-sur-Seine, France, July 20, 1774. He entered the army at an early age and made the acquaintance of Napoleon at Toulon. He was sent to Dalmatia in 1805 to defend the Ragusan territory

against the Russians, and defeated them at Castelnovo. He was summoned to join the great army in 1809, the day before the battle of Wagram, was intrusted with the pursuit of the enemy, won the battle of Znaim, and earned a marshal's baton. A severe wound, received at the defeat of Salamanca, compelled him to retire to France. He maintained the contest with great spirit in France in the beginning of 1814, till further resistance was hopeless, when he concluded a truce with Barclay de Tolly, which compelled Napoleon to abdicate, and earned himself from the Bonapartists the title of the traitor. On the return of Napoleon from Elba he was obliged to flee. After the second restoration he lived in retirement till the revolution of 1830, when he endeavored to reduce Paris to submission, and finally retreating with a few battalions that had continued faithful to Charles X., conducted him across the frontier. From that time he traveled much and resided chiefly in Venice, where he died, March 2, 1852. He was the last survivor of the marshals of the first French Empire.

Marmora, or Marmara (ancient Propontis), a small sea between European and Asiatic Turkey, communicating with the Ægean Sea by the Strait of the Dardanelles and with the Black Sea by the Strait of Constantinople. It is of an oval form, and about 135 miles in length, by 45 in breadth, but has, besides, a large gulf, the Gulf of Isnikmid, or Ismid, which extends about 30 miles E. into Asia.

Marmoset, the smallest of the monkey tribe; one of several South American species. The common marmoset is readily tamed, and becomes an amusing pet.

Marmot, a genus of rodents, of small size, included in the family of squirrels. The marmots differ greatly in habits from the true squirrels, being terrestrial in habits, and living in burrows which they excavate in the ground. But certain nearly allied forms appear to form connecting links between the marmots and squirrels. Such ground squirrels are found in North America, Europe and Siberia. The prairie dog of North America is the most familiar American species.

Marne, a river of France, the principal tributary of the Seine; rises in the plateau of Longres, flows N. W. past Chalons to Epernay, then W., joining the Seine at Charenton, a few miles above Paris; length, 326 miles; navigable 226 miles to St. Dizier; is connected by canals with the Rhine Aisne, and Seine. It gives its name to the greatest battle or series of encounters between the Entente Allies, mostly French troops, and the Teutonic forces driving toward Paris. The battle opened on Sept. 5, 1914, and, under the supreme command of Marshal Joffre, the French army completely frustrated the Teutonic plan and saved Paris. See APPENDIX: *World War*.

Marne, a Department in the N. E. of France, formed out of the old Province of Champagne, traversed by the Marne, Aisne, and Seine rivers; area, 3,159 square miles; pop. (1921) 526,000.

Marne, Haute, a Department in the N. E. of France, formed chiefly out of the old Province of Champagne, and embracing the land in the upper basins of the Marne and Meuse; area, 2,402 square miles; pop. (1921) 218,400.

Maronites, a body of Eastern Christians of Mount Lebanon, probably deriving their name from one Maro, a Syrian monk contemporary with Chrysostom. They have excited more attention in Europe than other Oriental Christians, on account of the persecution they have suffered at the hands of the Druses.

Marquesas Islands, a group in Polynesia, N. of Tuamotu or Low Archipelago; area, about 480 square miles; pop. about 3,424. The name strictly applies to four or five islands discovered by Mendana in 1595, but usually includes now the Washington group of seven islands, to the N. W., which were discovered by the American Ingraham in 1797.

Marquette, James, a French missionary and explorer, born in Laon, France, in 1637. He became a Jesuit priest in 1666 and went to Canada as a missionary. In 1673-1674 he made an extensive missionary journey through the Lake Superior and Green Bay region, traveling, exploring, and preaching, being in this way one of

the early voyagers down the Mississippi river, of which he wrote an interesting account. He died near Marquette River, Mich., May 18, 1675.

Marquez, Jose Arnaldo, a Peruvian poet; born about 1825. He published a book of travels in the United States. He lost his life in the defense of Lima against Chile, Jan. 15, 1881.

Marryat, Frederick, an English novelist and distinguished naval officer; born in London, July 10, 1792; the son of an eminent West India merchant; entered the navy as midshipman in 1806. In 1812 he received his promotion to the rank of lieutenant, in 1814 took part in an expedition to New Orleans, and the following year was made commander. For some time subsequent to 1820 he was actively engaged in the preventive service. From 1828 to 1830 he commanded the "Ariadne" in the Channel and Western Islands. That he was not raised to higher professional rank is said to have resulted from the free expression of his opinions against the practice of impressment. His first attempt in literature was made in 1829 by the publication of "Frank Mildmay or the Naval Officer." Its success stimulated him to further exertions of the like kind. He also made a tour in the United States, and published an account of it in 1839 under the title of "A Diary in America," in two series, which, like Mrs. Trollope's similar work, gave not a little offense to the people of the United States. He was also the author of a "Code of Signals for the Use of Vessels Employed in the Merchant Service." He died in Langham, Norfolk, on Aug. 9, 1848.

Mars, the Roman god of war, at an early period identified with the Greek Ares, a deity of similar attributes.

Mars, one of the superior planets situated between the earth on the one side and the vast cluster of asteroids on the other. Its mean distance from the sun is 141,500,000 miles, and at times it is only 36,000,000 miles from the earth. It revolves around the sun a few minutes under 687 days, and rotates upon its axis in 24 hours, 37 minutes, 22.67 seconds. Its equatorial diameter is about 4,200 miles, its polar about 40 less.

Its mass is about one-eighth that of the earth.



THE PLANET MARS.

Viewed by the naked eye, Mars appears of a uniformly red and fiery tint; but looked at through a powerful telescope the ruddy color is found to be confined to certain definite areas. In 1877, Hall, of the Observatory at Washington, by the aid of the great Washington refracting telescope, discovered that Mars has two satellites. The outer moon, named *Meimos*, is estimated to be from 5 to 6 miles in diameter, and revolves around the planet, at a distance of 12,500 miles, in 30 hours, 18 minutes. *Phobos*, the inner moon, is but 3,700 miles from the planet, and completes its revolution around Mars in 7 hours, 39 minutes. This is much less than the period of rotation of Mars itself, and constitutes a unique fact in the solar system. In 1892, Mars approached the earth very closely, and from observations made at that time the theory that it is inhabited, while not absolutely determined seems to have received some degree of confirmation.

Marseillaise, a song written by Rouget de Lisle, an officer of artillery in the garrison of Strassburg in 1792. It received its title from having been sung by a party of the Marseillaise Club as they entered Paris on the invitation of Madame Roland. It is virtually recognized as the national song of the French Republic.

Marseille, Folquet de, a famous Provençal poet and troubadour; born in Marseilles in 1155; died, 1231.

Marseilles, French Marseille a city, principal commercial seaport of France, on the Mediterranean, and capital of the department of Bouches-du-Rhône. It lies in the form of an amphitheater round a natural harbor of moderate size now known as the Old Harbor. Though a handsome city as a whole, Marseilles is not rich in public edifices. The harbor is strongly defended by various works. What is called the New Harbor consists of a series of extensive docks along the shore to the W., with a protecting breakwater in front.

In recent times Marseilles has made great progress in its extent, street improvements, population, and commerce, largely owing to the conquest of Algeria and the opening of the Suez Canal. Marseilles was founded by a colony of Greeks from Asia Minor about 600 years before Christ, the original name being *Massalia*. It attained great prosperity as a Greek colonial center, and the Greek language is said to have been spoken here till several centuries after Christ. It was taken by Caesar in 49 B. C. On the decline of the Roman Empire it became a prey to the Goths, Burgundians, and Franks. In 735 it fell into the hands of the Saracens, and in the 10th century it came under the dominion of the counts of Provence, and for some centuries after followed the fortunes of that house. Pop. (1926) 647,705.

Marsh, George Perkins, an American diplomatist and philologist; born in Woodstock, Vt., March 15, 1801. A graduate of Dartmouth in 1820, he practised law in Burlington, Vt.; became the first minister to the new kingdom of Italy in 1861, holding the post till his death, a period of over 20 years. As a diplomatist he had great ability. He died in Vallombrosa, Italy, July 23, 1882.

Marsh, Othniel Charles, an American palæontologist; born in Lockport, N. Y., Oct. 29, 1831. A Yale graduate, he studied at Berlin, Heidelberg, and Breslau; and was Professor of Palæontology at Yale from 1866 till his death. He was an authority on the extinct vertebrates

of the Rocky Mountains, having conducted many scientific expeditions thither and discovered more than 1,000 new specimens which he presented to Yale University. He prepared a series of government reports containing an illustrated account of his discoveries. He died in New Haven, Conn., March 18, 1899.

Marshal, a civil officer appointed by the President in each judicial district, and answering to the sheriff of a county. His duty is to execute all precepts directed to him, issued under the authority of the United States. Sometimes police officers in American cities are known as marshals. In some European countries the title of marshal confers the highest military distinction.

Marshall, John, an American jurist; born in Germantown, Va., Sept. 24, 1755. He was educated at home; studied law; was an officer in the Colonial army from 1775 to 1779, where he won distinction, especially on courts-martial, in which he acted frequently as judge-advocate. In 1781 he resigned, and entered on the practice of law. He was elected to the Virginia Legislature, and in 1788 to the Virginia convention that ratified the United States Constitution, where he shared with James Madison the work of influencing its adoption. He went as an envoy to France in 1798, but was superseded on account of his Federalistic views. In 1799 he entered Congress, and in 1800 was appointed Secretary of War, and a little later Secretary of State. In 1801 he was nominated chief-justice of the United States by President John Adams, and confirmed unanimously by the Senate. This office he held 34 years. He died in Philadelphia, July 6, 1835.

Marshall, Thomas Riley, an American statesman; born in North Manchester, Ind., March 14, 1854; was graduated at Wabash College in 1873; admitted to the bar on the day he was 21 years old; and settled in Columbia City, Ind., to practice. In 1908 he was the successful Democratic candidate for governor of Indiana, receiving a majority of 15,000 votes, at the same time that his State gave the Republican candidate for President (Taft) a majority of 10,000. Early in 1912 he was widely regarded as a Presidential possi-

bility; in the Democratic National Convention, July 3, 1912, he was nominated for the Vice-Presidency by acclamation; and in the ensuing election he shared in the great landslide with his chieftain, re-elected 1916; died 1925.

Marsh Mallow, a softly pubescent plant, with axillary cymes of large rosy leaves.



MARSH MALLOW.

a, flower; *b*, fruit.

Marshman, Joshua, an English missionary; born in Westbury Leigh, England, April 20, 1768; was sent in 1799 by the Baptist Missionary Society to Serampore, where he had Carey, Ward, and others as fellow laborers. He translated a great portion of the Bible into Chinese. He died in Serampore, India, Dec. 5, 1837. His son, John Clark Marshman (1794-1877), founded the first English weekly newspaper in India.

Marsh Marigold, a genus of plants having about five petal-like sepals, but no petals; the fruit consists of several spreading, compressed, many-seeded follicles.

Marston, Philip Bourke, an English poet; born in London, England, Aug. 13, 1850. His life was

a series of losses — of eyesight at three, and afterward of his sister, his promised bride, and his two dear friends, Oliver Madox Brown and Rossetti. His memory will survive through his friendships — with the last and with Watts and Swinburne — rather than through his sonnets and lyrics. He died in London, Feb. 13, 1887.



MARSH MARIGOLD.

Marston Moor, a plain in Yorkshire, England, where a decisive defeat was inflicted on the Royalists under Prince Rupert, by the Parliamentary army under Lord Fairfax and Oliver Cromwell, July 2, 1644.

Marsupialia, or **Marsupia**, pouched animals or mammals having a marsupium or pouch. The young are born of a small size and imperfect in condition, but are transferred to the marsupium, where they become attached to a long nipple which supplies them with milk. The majority of the species inhabit Australia and its adjacent islands.

Martel de Janville, Countess Gabrielle de. See GYP.

Martello Tower, a circular-shaped fort, about 40 feet high, with very thick walls, formerly built for coast defense. During the Napoleonic wars, they were built in great numbers in England and her colonies, owing to the fear of a French invasion.

Marten. A class of flesh-eating, four-footed animals, differing slightly from weasels. They are limited to the N. portion of both hemispheres, ranging S. as far as 35° S. in America; one species, the Indian marten, occurs in Java.

Martha's Vineyard, an island on the S. coast of Massachusetts, 21 miles long, 6 miles in average width.

Martial (Marcus Valerius Martialis), a Latin epigrammatist; born in Bilbilis, Spain, in 43 A. D. His poems, which consist of about 1,500 pieces, are interesting for their allusions to the persons and manners of the times, but abound with indelicacies. He died in Spain about 104.

Martial Law, an arbitrary rule, proceeding from military power and having no immediate or legislative sanction.

Martin, a migratory bird, closely resembling the swallow. It builds a mud nest under the eaves of houses and barns. The sand martin hollows out galleries in sand banks, where it nests and breeds. The sand martin and the house martin are both birds of passage, arriving in spring and departing toward the end of summer.

Martin, Homer Dodge, an American artist; born in Albany, N. Y., Oct. 28, 1836; was chiefly self-taught in painting; opened a studio in New York city in 1862; was elected a member of the National Academy of Design in 1875; and resided in France in 1882-1886. He succeeded in developing a style entirely his own, which was of so high a quality as to place him among the best known of American landscape painters. He died in St. Paul, Minn., Feb. 12, 1897.

Martin, William Alexander Parsons, an American educator; born in Livonia, Ind., April 10, 1827. A missionary originally at Ningpo, China (1850-60), he founded and directed the Presbyterian mission at Peking, 1863-68; became Professor of International Law at Tungwen College, Peking, in 1868; president in 1869; was sent by China to the United States and Europe to report on methods of education in 1880; made mandarin of the third rank in 1885, and of the second class in 1898; president of the Imperial University of China in 1898-1900.

Martineau, Harriet, an English reformer, sister of James Martineau; born in Norwich, England, June 12, 1802. She visited the United States in 1834, aiding the abolitionists, and traveled in Palestine and the East

Martinez

in 1846. She labored under the remarkable disability of being all her life without the senses of taste and smell, and at 16 became very deaf. She died June 27, 1876.

Martinez Campos. See CAMPOS.

Martinique, one of the French West India Islands, in the Windward group; 30 miles S. W. of Dominica, and 20 miles N. of St. Lucia. It is of irregular form, high and rocky, about 45 miles long and 10 to 15 broad; area, 378 square miles. Its loftiest summit, Mont Pelee, is 4,450 feet high. There are six volcanoes on the island. Extensive masses of volcanic rocks cover the interior, rise to a great elevation, and extend from the mountains to the shores of the sea, where they form numerous deep indentations along the coast. Between the volcanic rocks broad irregular valleys of great fertility occur. The climate is hot but not unhealthy. Hurricanes and earthquakes are not infrequent. About two-fifths of the island are under cultivation, the remainder being covered with trees or occupied by naked rock or disintegrated pumice stone. The coffee of Martinique is almost as highly esteemed as that of Arabia. The mountain slopes are in most parts covered with primeval forests. In other parts the slopes are cultivated to the height of about 1,400 feet. Numerous streams flow down from the heights, most of them mere rivulets, except during the rainy season which lasts from the middle of July to the middle of October, when they become impetuous torrents. The island has several good harbors, the best of which is Port Royal, on the S. W. side of the island. Since 1870 Martinique has sent two deputies to the National Assembly of France. The island was discovered by the Spaniards on St. Martin's day in 1493, when it was peopled by Caribs, who called the island Madiana. In 1635 it was settled by the French, who eventually extinguished the aboriginal race. It was subsequently taken by the British in 1794 and restored in 1802; it was again taken by the British in 1809 and restored in 1814. It was devastated by a tremendous tornado in 1891 with the loss of many lives. Pop. (1921) 244,439.

For years the people of Martinique

Martinique

had lived in perfect safety under the shelter of Mont Pelee. Warnings of impending danger began on May 3, 1902, when the volcano threw out dense clouds of smoke. Hot ashes covered the city of St. Pierre on the 4th; and at noon of the 5th a stream of boiling mud suddenly rushed down the mountain side to the sea. This sudden rush caused the sea to recede some 300 feet and return in a tidal wave of considerable though not serious proportions. Cable communication with Martinique was interrupted in the afternoon of May 6, and the next news filled the world with horror. An entire city of 28,000 inhabitants had been literally wiped out of existence.

From the stories of the few survivors it is gathered that on Thursday, the 8th, at 7:50 A. M., there was a sudden deafening explosion, and immediately the air was filled with hot sulphurous gases which withered everything they touched. An eyewitness at Morne Rouge, a town $4\frac{1}{2}$ miles away, states that there were seven luminous points on the side of the mountain just before the volcano burst, and that the explosion was followed by 10 minutes of absolute darkness. Simultaneously with this explosion a tidal wave tore the vessels in the harbor from their anchorages and wrecked them on the beach. The "Roddam," which had a full pressure of steam on, was the only vessel to escape total destruction, and she worked her way flaming from the harbor, amid a shower of molten matter. In the city almost the entire population was immediately suffocated by the hot, poisonous gases. It is supposed that the destruction was the work of but a few seconds, as delicate fabrics were found uninjured among the badly charred victims. Debris covered the city for a depth of 12 feet. On May 9 there was also an eruption of Mt. Soufriere, St. Vincent. A large loss of life was reported and dust from the volcano spread over the Barbadoes Islands, 75 miles to the E. This eruption had probably a sympathetic connection with that of Mont Pelee.

On the night of Aug. 30, after previous warnings of renewed disturbance, another great eruption occurred, reported as even more violent than that in May. The villages of Morne

Rouge and Ajoupa Bouillon were destroyed, the country from Mont Capote to the Valley of Campflore devastated, and Le Carbet swept by a tidal wave. By official report 1,060 deaths were recorded with 150 persons injured.

Marty, Martin, an American clergyman; born in Schwyz, Switzerland, Jan. 12, 1834; ordained in the Roman Catholic Church; came to the United States in 1860; and was appointed the first superior of a priory that was founded in St. Meinrad, Ind., in 1865. This priory was made an abbey in 1870 and Father Marty raised to a mitred abbot. After several years he began mission work among the Dakota Indians. The Territory of Dakota was organized into a vicariate-apostolic in 1879, and placed under the direction of Father Marty, who was consecrated Bishop of Tiberias, Feb. 1, 1880. He was transferred to the St. Cloud diocese, Minn., 1894. He was the author of a Sioux grammar and dictionary. He died in St. Cloud, Minn., Sept. 19, 1896.

Martyn, Sarah Towne, an American writer; born in Hopkinton, N. H., Aug. 15, 1805. She died in New York, Nov. 22, 1879.

Martyn, William Carlos, an American historical writer; born in New York city, Dec. 15, 1841. He was a Presbyterian clergyman in that city. His works included "History of the Pilgrim Fathers of New England."

Marvel, Ik. See MITCHELL, DONALD GRANT.

Marvell, Andrew, an English poet and politician; born in 1620; died in 1678. His satires against the Court of Charles II. are famous. His integrity gained him the name of the "English Aristides."

Marx, Karl, German socialist and author; born in 1818; died 1883. He lived variously in Cologne, Paris, Brussels, London, and New York.

Mary (Hebrew Miriam), called in the New Testament The Mother of Jesus. The incidents in her personal history recorded in Scripture are few in number, and chiefly refer to the Annunciation and to her relations with our Lord.

Mary, the mother of Mark the Evangelist. She had a house in Jeru-

salem, where the followers of Jesus were wont to convene.

Mary, the wife of Cleophas, and mother of James the Less and Joseph. She believed early in Jesus Christ, and accompanied Him in some of His journeys, to minister to Him; followed Him to Calvary, and was with His mother at the foot of His cross. She was also present at His burial; prepared perfumes to embalm Him, and was early at His sepulcher on the morning of His resurrection.

Mary, the sister of Lazarus, whom our Lord raised from the dead. Her character presents a beautiful companion picture to that of her more active and impulsive sister Martha. Contemplative, confiding, and affectionate, it was like heaven to her to sit at the feet of her Lord. The character of the two sisters was well contrasted at the supper in Bethany, after the resurrection of Lazarus. No service was too humble for Martha to render, and no offering too costly for Mary to pour out, in honor of their Saviour.

Mary, the Magdalene, or native of Magdala, on the Sea of Galilee. She was foremost among the honorable women who ministered unto Christ and His disciples. She was especially devoted to Christ for His mercy in casting out from her seven evil spirits. She was early at His tomb; and lingering there when the disciples had retired, she was the first to throw herself at the feet of the risen Saviour. There is no evidence that she was ever a profligate.

Mary I. (Mary Tudor), Queen of England, daughter of Henry VIII. and his first queen, Catharine of Aragon; born in Greenwich Palace, Feb. 18, 1516. She early espoused her mother's cause during the proceedings for divorce then pending, and thereby became estranged from her father. After the death of Queen Anne Boleyn, in 1549, Mary, though educated a Roman Catholic, was induced to acknowledge the king as head of the Reformed Church of England, and yielded an outward conformity to the successive changes of religion during Henry's reign, thereby securing to herself the succession by act of Parliament passed in 1514. During the reign of her half brother, Edward VI., Mary steadfast-

ly refused to conform to the Protestant religion; which led to the attempt to transfer the succession to the crown to her cousin, Lady Jane Grey, to her own exclusion. This proceeding failed, though Lady Jane was actually proclaimed on Edward's death in 1553, and Mary entered London in triumph. She liberated the imprisoned Roman Catholic prelates. She sent Lady Jane Grey and her husband, Lord Guilford Dudley, to the block on a charge of treason; and proclaimed the repeal of all the laws for the maintenance of the Reformed religion. An insurrection, headed by Sir Thomas Wyatt, having for its object the prevention of her union with Philip II. of Spain, was suppressed after considerable bloodshed, and the marriage took place in Winchester in 1554. She died in St. James Palace, Nov. 17, 1558.

Mary II., Queen of England; born in St. James Palace, April 30, 1662. She was daughter of James, Duke of York, afterward James II., by his wife Anne Hyde, daughter of Lord Clarendon. She was married in 1677 to William, Prince of Orange; and when the Revolution dethroned her father, Mary was declared joint-possessor of the throne with William. During the absence of William in Ireland in 1690, and during his various visits to the Continent, Mary managed at home with extreme prudence. She was strongly attached to the Protestant religion and the Church of England. She died of smallpox in Kensington Palace Dec. 28, 1694.

Mary Stuart, Queen of Scots; born in Linlithgow Palace, Scotland, Dec. 8, 1542; was the daughter of James V., by his queen, Mary of Lorraine, a princess of the family of Guise. Her father dying when she was six days old, disputes arose among the nobility about the guardianship of the infant sovereign and the conduct of public affairs. The regency was vested in the Earl of Arran, and Henry VIII. of England having demanded the hand of Mary in marriage for his son Edward, the regent's rejection of the proposal occasioned a war, in which the Scots were defeated. In August, 1548, the young queen was sent to France. On April 24, 1558, she was married to the dauphin, afterwards Francis II. He died in

December, 1560, 17 months after his accession to the crown, and in August, 1561, the widowed queen returned to Scotland. Mary had been educated in France as a Roman Catholic. The Scottish Reformation had just taken place (August, 1560), and when she returned she found that the influence of the Protestants was paramount in her kingdom, though she claimed the right of exercising her own religion.

Within a few days after her arrival in Scotland she had an interview with John Knox, hoping she might gain him over to take a more tolerant view of her own adherence to the Roman Catholic ritual, which Knox had the hardihood openly to condemn in the pulpit. She resigned herself to circumstances, and quietly allowed her half-brother, Lord James to assume the position of first minister; surrounded herself with a number of other Protestant advisers, and dismissed the greater part of the train of French courtiers who accompanied her to Scotland. She even gave these ministers her active support in various measures that had the effect of strengthening the Protestant party; but she still continued to have the mass performed in her own private chapel.

This early part of Mary's reign presents a great contrast with the remaining part of it, and indeed with the remainder of her whole life. Her marriage to her cousin, Lord Darnley, was most unfortunate and was the beginning of her downfall. Darnley's part in the murder of Rizzio, an unfortunate Italian who had won the queen's goodwill, alienated her affections from him. The murder of Darnley himself, in which, however, no complicity on the part of Mary has ever been indicated, and her marriage to the Earl of Bothwell, who probably did have a guilty part in Darnley's death, served to hasten her overthrow. First imprisoned by rebellious nobles at Lochleven, then defeated after her escape at Langside, she fled to England. Then began that long imprisonment, with its record of plots and conspiracies for her release, terminating at last in her death. Mary was charged with being implicated in Babington's plot against Elizabeth's life and government, and having been tried

by a court of Elizabeth's appointing was on Oct. 25, 1586, condemned to be executed. There was a long delay before Elizabeth signed the warrant for the sentence to be carried out, but this was at last done on Feb. 1, 1587. Mary received the news of her destined fate with great serenity; wrote her will; and having prepared herself for death by practising the ceremonies enjoined by the Catholic faith suffered decapitation, Feb. 8, 1587, in the castle of Fotheringay, and on Aug. 1 was interred with great pomp in the Cathedral of Peterborough.

Marye's Hill, a locality in Spottsylvania Co., Va., in the vicinity of Fredericksburg, which during General Burnside's attack on that town (Dec. 13, 1862) was held by a force of Confederates under General Longstreet. General French, aided by General Hancock, attempted to carry the post by storm, but they were repulsed with a loss of nearly half of their men. The approach of darkness only ended the awful conflict. Subsequently, during the battle of Chancellorsville, Marye's Hill was taken by General Sedgwick, May 3, 1863.

Maryland, a State in the South Atlantic Division of the North American Union; one of the original 13 States; number of counties, 24; area, 12,327 square miles; pop. (1928 Est.) 1,616,000; capital, Annapolis.

The surface of the State is varied, with three prominent divisions, the Coast Plain, including the Western Shore, between the ocean and Chesapeake Bay; the Piedmont plateau, extending from the bay W. to the Catoclin Mountains, and the Appalachian mountain region. The Chesapeake Bay cuts the State in two parts, and with its principal affluent, the Potomac river, forms the principal water system. The mountains in the W. are divided into three ranges, the Blue Ridge, Appalachian, and Alleghany, and reach an elevation of 3,000 feet. The Atlantic coast has no good harbors, but the bay with its numerous coves and estuaries gives excellent facilities for water transportation. The principal rivers are the Potomac on the S. boundary, the Susquehanna flowing in from Pennsylvania on the N. and emptying in the bay.

The climate is equable, and not sub-

ject to sudden changes, the thermometer seldom falling below zero.

The mineral production is not extensive, the principal product being coal which for 1928 amounted to 2,780,000 long tons followed by pig iron which was produced in the amount of 1,051,000 long tons.

The agricultural advantages of Maryland are noteworthy, the 1929 estimated value of 67 crops being \$65,700,000. The principal products were corn, wheat, hay, tobacco, potatoes and fruits. Maryland is one of the principal sources of vegetables for New York city markets.

The 1927 census of manufactures reported 3,205 establishments, employing 126,700 persons, earning \$141,903,000 in wages, and with an output valued at \$943,411,000. Men's clothing, straw hats, and the slaughter and meat packing industries being great sources of income.

In 1928 there were 314,064 pupils enrolled in public and private elementary and secondary schools; 199 public and private high schools and academies with 51,618 pupils; 18 universities, colleges, and professional schools with 13,625 students. Located at Baltimore is Johns Hopkins University and at Annapolis the United States Naval Academy.

Through its port of Baltimore, the State has a large foreign trade, the imports of merchandise, in 1929, having a value of \$116,569,000 and exports, \$84,231,000.

In 1927 the State debt, less sinking fund assets, was \$23,872,776; the assessed valuation of all property, \$2,348,840,482; state receipts, \$24,116,385; expenditures, \$24,480,338. Aggregate debts of counties, cities and minor civil divisions, \$98,825,000.

Maryland is divided into eight judicial circuits and in each, with the exception of Baltimore, one chief justice and two associates are elected by popular vote for a term of 15 years. The eight chief justices constitute the Court of Appeals which is the court of last resort.

The governor is elected for a term of four years, and receives a salary of \$4,500 per annum. Legislative sessions are held biennially and are limited in length to 90 days. The Legislature in 1917 had 27 members in the Senate and 102 in the House, each of whom

receives \$5 per day. There were 6 Representatives in Congress.

The earliest settlement in Maryland occurred in 1631, in which year a party of English from Virginia, under Capt. William Clayborne, established themselves on Kent Island in Chesapeake Bay. The main colonization of this region, however, was made in 1634 by a body of English Roman Catholic cavaliers under a charter granted to the 2d Lord Baltimore by Charles I., bearing date June 20, 1632. The expedition sailed from England in November, 1633, and landed on St. Clement's Island in March, 1634, founding the settlement of St. Mary's, on the mainland, two days after their arrival. Leonard Calvert was elected first governor, and a House of Assembly established in 1639, which, 11 years later, was divided into two houses—the one consisting of members chosen by the Proprietary, and the other by the Freemen. Puritans exiled from Virginia made themselves masters of the province in 1644. Two years later, Governor Calvert returning at the head of a considerable military force, succeeded in reestablishing his authority. In 1654 a civil war ensued, in which the Puritans were eventually victorious in 1655. At length, after the restoration of Charles II., the Proprietary was reinstated. In 1729 Baltimore was founded. Frederick City was laid out in 1751, and the colony progressed rapidly in wealth and population. In 1774 the Stamp Act, and the act levying a duty on tea, met with resolute and active opposition from the Marylanders, who, assembled in convention, abolished the Proprietary government and substituted therefor a Committee of Public Safety. In 1776 a convention of the people adopted a bill of rights and a constitution; in the following year the first elected Legislature was convened at Annapolis, and in March, Thomas Johnson took office as the first republican governor. During the Revolution the Marylanders bore a highly distinguished part, participating in nearly every battle of the war. During the campaign of 1812 Maryland suffered severely from the naval operations of the British. The militia of the State vainly opposed the march of the English army to Washington in 1814. In the same year occurred the battles

of Bladensburg and North Point; in the former of which the enemy was successful, while in the latter the British General Ross was killed, and the Americans gained a slight advantage. An attack (Sept. 14-16) on Baltimore by the enemy's fleet was successfully repelled. At the outbreak of the Civil War, in 1861, the Marylanders were divided in sentiment, many of the people being in sympathy with the Confederates, though the State remained loyal to the National cause. During a series of Confederate invasions from Virginia during the war, the State became the theater of important military operations and sanguinary engagements. In the year 1880 Baltimore celebrated its 150th anniversary with a week of festivities, and in 1884 the 250th anniversary of the landing of the colonists was celebrated. In 1891 a monument was erected to Leonard Calvert, the first governor, on the site of the old city of St. Mary's, the first capital of the State.

Maryville College, a coeducational institution in Maryville, Tenn.; founded in 1819 under the auspices of the Presbyterian Church.

Masai, a people of East Equatorial Africa, dwelling in a district that includes Kilimanjaro, Kenia, and Lake Baringo. The S. half of the district is low and barren, with no rivers and little rain, while in the N. it rises into a plateau region, rich in running streams, forests, and grass land. The Masai are not a Negro or Bantu race; they resemble the Gallas, being men of magnificent stature, though their faces are ugly and ferocious in expression. This is due to the warlike habits of their youth, when, for nearly a score of years, they live in military kraals, spending their time in alternate idleness and on the warpath. After marriage, which takes place when they lay aside the habits of the warrior, they settle down as cattle breeders.

Masaniello, the commonly received name of Tommaso Aniello, a fisherman of Naples; born in Amalfi in 1623. He headed the populace in their revolt against the Spanish viceroy in 1647, when only 25 years of age. His career lasted but nine days, in which time he had 150,000 men under his orders and was elevated to

sovereign authority. He was murdered by four assassins at Naples, July 16; and as the resistance he commenced never ceased till the Spanish yoke was broken, he has since been venerated as the liberator of his country.

Mascagni, Pietro, an Italian composer; born in Leghorn, Tuscany, Dec. 7, 1863. His one-act opera "Cavalleria Rusticana," composed for a prize-competition, made him famous.

Mascot, one who or that which is supposed to bring good luck.

Masefield, John, Poet Laureate of England by appointment of His Majesty, King George V as successor to Robert Bridges. Born in Liverpool, England, 1875, went to sea at the age of fourteen after which he worked at various occupations in all parts of the world. A meeting with W. B. Yeats launched him upon a literary career. His writings include fiction, drama and poetry.

Mashona, a Bantu tribe belonging to the Kafir family inhabiting Mashonaland.

Mashonaland, a former province in the interior of Africa, now, with the former province of Matabeleland, included in Southern Rhodesia. It consists of very fertile plateaux and plains, watered by numerous rivers.

Masinissa, King of ancient Numidia; born about 238 B. C. His acquisition of a number of Carthaginian provinces led to the third Punic war, in the second year of which he died (148 B. C.), aged about 100 years.

Mason, James Murray, an American legislator; born on Mason's Island, Fairfax co., Va., Nov. 3, 1798; was United States Senator from Virginia from 1847 till expelled in July, 1861; drafted the "fugitive slave law" in 1850; was sent by Jefferson Davis as Confederate commissioner with John Slidell to England and France in 1861, and was captured on the "Trent," Nov. 8, and kept in Boston as a prisoner of war till Jan. 2, 1862. He died near Alexandria, Va., April 23, 1871.

Mason, Sir Josiah, an English philanthropist; born in Kidderminster, England, Feb. 23, 1795; began life by selling cakes on the street. He began to make pens in 1829, and his business increased till he became the

largest penmaker in the world. He died in Erdington, England, June 16, 1881.

Mason, William Ernest, an American legislator; born in Franklinville, N. Y., July 7, 1850; removed with his parents to Bentonport, Ia., in 1858; was admitted to the bar and began practice in Chicago, Ill.; member of the Illinois General Assembly, and of the State Senate; of Congress (1887-91); and United States Senator 1897-1903, in which capacity he was an ardent advocate of Cuban independence. Died June 16, 1921.

Mason and Dixon's Line, in United States history, a line popularly regarded as dividing the slaveholding from the non-slaveholding States. In reality it ran for more than one-third of its length between two slave States, Maryland and Delaware. It was run by two English engineers, Charles Mason and Jeremiah Dixon, between the years 1764 and 1767, for the purpose of settling the disputed boundaries between Maryland on the one side and Pennsylvania and Delaware on the other. The work was done with such skill and accuracy that a revision in 1849, with instruments of much greater precision, disclosed no error of importance.

Masonry, the art or occupation of a mason; the art of so arranging stones or brick as to produce a regular construction.

Maspero, Gaston Camille Charles, a French Egyptologist; born of Italian parents, in Paris, France, June 23, 1846. In 1881 he founded a school of Egyptian archaeology at Cairo, and succeeded Mariette as director of explorations and custodian of the Boulak Museum. As an explorer he excavated or opened the pyramids of the kings belonging to the 5th and 6th dynasties, and the burial fields of Sakkara and Dashur, and discovered new sepulchral sites of great value at Deir el-Bahari, near the entrance to the Valley of the Tombs of the Kings, at Eckmin, 130 miles S. of Thebes. Knighted 1909; died in 1916.

Masquerade, a species of amusement, in which persons of both sexes mask or disguise themselves, and engage in dancing, festivities, or miscellaneous conversation.

Mass. in Roman Catholic theology and ritual, "the perpetual sacrifice of the new covenant, in which the body and blood of Jesus Christ are really and truly offered to God under the species of bread and wine."

Massachusetts, a State in the North Atlantic Division of the North American Union; one of the original 13 States; number of counties, 14; area, 8,040 square miles; pop. (1930) 4,253,646; capital, Boston.

The surface of the State is mostly rough and rugged, with irregular mountain systems. The coast counties are, however, mostly level, with low, rounded hills, and rock eminences on the coast. Cape Cod is a low, sandy arm of land extending in a semicircle around Cape Cod Bay. There are numerous salt marshes in the E. part of the State. The W. part of Massachusetts is traversed by two mountain chains, the Taconic and the Hoosac, the latter a continuation of the Green Mountains of Vermont. Between these ranges is the Hoosac valley, which at its N. end is 1,100 feet above the sea. Mount Greylock and Mount Washington are the highest points in the State. A rugged tableland 1,000 feet high extends E. from the Hoosac range to the Connecticut river valley, with a series of trap ridges reaching their highest elevation in Mount Tom and Mount Holyoke. The valleys of the Connecticut and Housatonic are noted for their beautiful scenery.

Mineral products are chiefly the quarry output, largely granite. The value of all mineral output in the State for 1928 was \$16,234,000. The main farm products are hay, potatoes, tobacco, and truck farm output. The fisheries reported a \$15,648,800 catch in 1928, Massachusetts being the leading fisheries state in New England.

Most of the soil is too rocky for cultivation and is suited only for pasturage.

Massachusetts has grown into a first place in industry and has greatly developed its water power. The capitalization of its manufacturing establishments, which include practically all lines of industry, exceeds \$3,000,000,000. Lowell is noted far as the largest carpet milling city in the Unit-

ed States. Worcester has the largest steel wire works in the world, and Holyoke ranks first in the paper manufacturing; Wakefield, for rattan; Fitchburg, for tools; etc. According to the census of manufactures, 1927, 10,037 establishments reported 578,068 employees earning \$705,930,000 and an output valued at \$3,317,852,000 (\$3,426,617,326 in 1925 and \$3,550,987,233 in 1923).

The most important manufactured products are cotton goods, worsted goods, woolen goods, knit goods, silks, dyeing and finishing textiles, boots and shoes other than rubber, rubber boots and other rubber products.

At the end of 1928 Massachusetts had 8,783 miles of surfaced roads and had expended \$29,962,000 for road construction, maintenance, interest and equipment. There was \$31,557,000 available for road construction.

In 1928 there were 2,015 miles of steam railroad and 2,071 miles of electric lines in the State.

In the school year 1927 the public school enrollment was 743,980. For higher education there were 342 public high schools and 32 colleges, universities and technical schools, chief among which were Harvard University, Cambridge; Amherst College, Amherst; Boston University, Boston; Williams College, Williamstown; and College of the Holy Cross, Worcester. The women's colleges included Radcliffe College, Cambridge; Mount Holyoke College, South Hadley; Smith College, Northampton; and Wellesley College, Wellesley.

In private and parochial schools there were 201,336 pupils and 106 private high schools and academies with 43,624 students under 1,146 teachers.

In 1927 the State debt less sinking fund assets was \$22,103,085; the assessed valuation of all taxable property was \$7,076,313,505; and the tax levy was \$18,617,000.

The governor is elected for a term of two years and receives a salary of \$10,000 per annum. Legislative sessions are held annually beginning on the first Wednesday in January, and are not limited as to length of time. The legislature has 40 members in the Senate and 239 in the House, each of

whom receives \$1,000 per annum. In 1917 there were 16 Representatives in Congress.

The history of Massachusetts begins with the landing of the Pilgrims at Plymouth in 1620, though it is probable that portions of the coast were temporarily settled by Norwegians as early as A. D. 1000. In 1628 another colony was established at Salem, and both were united under one government with Maine in 1692. In 1675, an Indian chief, named Philip of Pokanoket, or King Philip, began a war which had for its object the entire extermination of the English. This war lasted three years, and was only ended by the death of King Philip himself.

When the oppressive measures of the English Parliament finally brought about the rupture with the colonies, none took a more active or more prominent part than Massachusetts in the National cause. The passage of the Stamp Act aroused the wildest excitement; and its repeal the following year was received with demonstrations of joy. The arrival of the "Romney" man-of-war renewed the excitement, and Massachusetts issued a circular letter to the colonies, which the British ministry in vain commanded the authorities to rescind. Then followed the Boston massacre in 1770, the destruction of the tea in 1773, and the Port Bill in 1774. The Revolutionary War had its outbreak in Massachusetts, the bloodshed at Lexington and the contest at Concord being the incidents that led to the war. Its earliest event was the siege of Boston, made notable by the battle of Bunker Hill, the acceptance of the command by Washington at Cambridge, and the evacuation by the British. In 1780 a constitution was framed for the State, and adopted by popular vote. On the breaking out of the Civil War in 1861 Massachusetts was among the first to offer assistance to the National cause; and, till the final success of the Federal army, continued to perform a patriotic and liberal part.

Massachusetts Agricultural College, a coeducational, non-sectarian institution in Amherst, Mass.; founded in 1863. It has a staff of 75 instructors, and an average annual attendance of 850 pupils.

Massachusetts Bay, a large bay to the E. of the central part of Massachusetts; bounded on the N. by Cape Ann, and on the S. by Cape Cod.

Massachusetts Institute of Technology, a coeducational institution in Boston, Mass.; founded in 1865; instructors, 444; students, 2,712.

Massage, a form of medical treatment in which the body is subjected at the hands of an attendant to a variety of processes. The tendency of this treatment is to assist and stimulate the circulation, and to increase the waste-removing action of the lymphatic vessels, and thus to affect the nutrition, not only of the parts acted upon, but also of the whole body.

Massagetæ, a wild and warlike people who inhabited the broad steppes on the N. E. of the Caspian Sea, to the N. of the Araxes or Jaxartes river. Cyrus is said to have lost his life in fighting against them, 530 B. C.

Massasoit, Indian chief; born in Massachusetts about 1580. His dominions comprised the district in the S. E. part of Massachusetts between Cape Cod and Narragansett Bay. In March, 1621, three months after the landing of the Pilgrims, he sent a warrior named Samoset to Plymouth who shouted in English, which he had learned from Penobscot fishermen, "Welcome Englishmen!" Later Massasoit visited the Pilgrims in person and arranged a treaty of friendship in which both sides promised to refrain from unfriendly or hostile acts and to aid each other if either were unjustly attacked. This is the oldest diplomatic act recorded in the history of New England and was faithfully kept for 54 years. When Roger Williams, who was exiled from the Massachusetts colony, was on his way to Providence he was cared for by Massasoit for several weeks. Massasoit died near the present Warren, R. I., in 1660.

Master, in the navy, an officer who navigates a ship under the direction of the captain. Also the captain of a merchant vessel.

Masterwort, a perennial herb, a native of North America and Northern Europe.

Mastic, the gum resin of the lentick or mastic tree.

Mastiff, a variety of dog of an old English breed. It is faithful and affectionate, and makes an excellent watchdog. A Cuban mastiff is intermediate in size between the English variety and the bulldog, it is extremely savage, and was used in the days of slavery for tracking runaway negroes.

Mastodon, an extinct genus of proboscideans, closely allied to the true elephants. The genus ranged in time from the middle of the Miocene period to the end of the Pliocene in the Old World, when they became extinct. In America several species survived to a late Pleistocene period.

In 1897 the skeleton of a mastodon, the largest yet discovered, was unearthed on a farm near New Paris, O. It was found in what had evidently at one time been a morass, and was buried 10 feet below the surface, where from all indications it had lain for centuries. It was very nearly perfect, and though some of the bones crumbled away on exposure to the air,

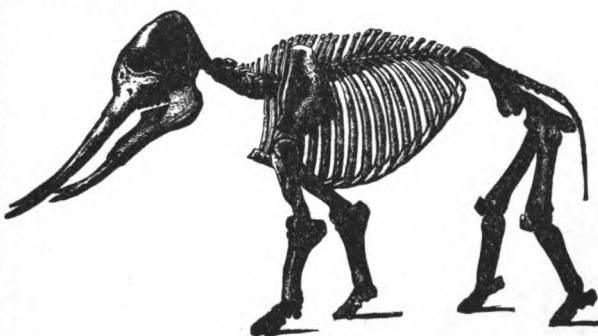
they were cleverly replaced, and the skeleton was set up at Earlham College, Ind., where it has been visited by scientific men from many foreign countries. An entire fossil monster of this kind is extremely rare, and besides this one there are only two others in existence, one of these being in the British Museum and the other in Boston. The estimated weight of this creature when living was about 10 tons, its skull, complete, alone weighing considerably over 300 pounds. The skeleton stands 11 feet 2 inches high, and its length, from forward curve of tusks to backward curve of tail, is 20 feet 2 inches.

Matador, in Spanish bull fights the man appointed to administer the fatal stroke to the bull, when excited

to fury by the attacks of the picadores and banderilleros.

Matanzas, city, seaport, and capital of Matanzas province, Cuba; on the N. W. coast; 52 miles E. of Havana; has a commodious harbor and large commerce in sugar, molasses, and coffee; ranks next to Havana in importance; its forts were destroyed by the United States navy in 1898. Pop. (1924) 62,638.

Mate, in the mercantile navy, is the officer who acts as the deputy of the master, taking his place during his absence. They are of four grades — first, second, third, and fourth mate



MASTODON.

Materialism, the system of philosophy which regards Mind as a function of matter; the mechanical theory of the Universe.

Materia Medica, a general term for the different medicines employed for curative purposes.

Mathematics, the science in which known relations between magnitudes are subjected to certain processes which enable other relations to be deduced.

Mather, Cotton, an American clergyman; born in Boston, Mass., Feb. 12, 1665. After graduating at Harvard College in 1678 and early manifesting a truly Puritan spirit of austerity, he devoted himself to theological studies, and in 1684 was ordained as his father's colleague in the

Mather

pastorate of the North Church, Boston. More notably did he distinguish himself as the self-called exterminator of witchcraft; in relation to which delusion he published, in 1685, his "Memorable Providences relating to Witchcraft and Possessions." Following this diatribe against demonology appeared in London a discourse from his pen, pronouncing witchcraft "the most nefandous high treason against the Majesty on high,"—with a preface by Richard Baxter. In 1692 he produced his "Wonders of the Invisible World," and from this time forward till his death wrote voluminously, his chief work being "Illustrations of the Holy Scriptures." The latter years of his life were passed in comparative obscurity. Died in Boston, Mass., Feb. 13, 1728.

Mather, Increase, an American clergyman; born in Dorchester, Mass., June 21, 1635. Educated at Harvard College, where he took his degree in 1656. In the following year he went to England, where he obtained preferment and was greatly distinguished for his urbanity and integrity; but in consequence of his Nonconformist opinions was obliged to return to his native colony, where he was appointed minister at Boston; in 1684 was elected president of Harvard College. He died in Boston, Mass., Aug. 23, 1723.

Mathew, Theobald, an Irish reformer; born in Thomastown Castle, near Cashel, Ireland, Oct. 10, 1790; was ordained in the Franciscan order. On April 10, 1838, he signed a total abstinence pledge and began a temperance crusade. He traveled over all parts of Great Britain and Ireland, and in the United States. In the course of the first five months of his work he administered the pledge at Cork alone to over 150,000. The immediate results of his preaching were a marked decrease in crime and intoxication, accompanied by a reduction in the duties of Irish spirits of nearly three millions of dollars in a period of five years. The permanency of his work was largely destroyed, however, by the Irish famine, which he also did more than any one else to relieve. Thousands of Father Mathew Total Abstinence Societies have been organized throughout the world in his honor. Died in Queenstown, Dec. 8, 1856.

B.-50.

Matthew

Matin, a dog considered by the French to be the progenitor of all breeds that resemble, and yet cannot be classed with the greyhound. It is commonly employed in France as a sheep dog and watchdog.

Matins, the daily office of Morning Prayer in the Anglican communion. In the Roman Catholic Church, the first portion of the Divine Office with which Lauds are usually associated.

Matterhorn, a peak of the Alps between the Swiss canton of Valais and Piedmont, rising to the altitude of 14,705 feet. The actual peak was first scaled by Lord Francis Douglas, the Rev. C. Hudson, Hadow, and Whymper, with three guides, July 14, 1865, when the three first-named and one of the guides fell over a precipice and were killed.

Matthew, an apostle of Jesus, almost certainly the same as Levi, the son of Alphaeus. He was a "publican"—a taxgatherer—who sat at the receipt of custom at Capernaum on the shore of the Sea of Galilee. He was regarded as outside the pale of society, and his companions, when he was called to the apostleship, were "publicans and sinners." After his call he figures in all the lists of apostles.

The Gospel according to **St. Matthew**, the first of the four Gospels in arrangement, and long most universally held to have been the first in point of publication. The author's name is nowhere given in it, but universal Christian tradition assigns it to Matthew, and there is a fragment of internal evidence in the same direction. In connection with the call of Matthew the first Gospel relates that "as Jesus sat at meat in the house, behold many publicans and sinners came and sat down with Him and His disciples." St. Luke says that "Levi (Matthew) made him a great feast in his own house; and there was a great company of publicans and of others that sat down with them." If the author of the first Gospel felt diffident about recording the hospitality of Matthew, the only reason can be that he was Matthew himself. The special object of the first Gospel was to show that Jesus was the Messiah of ancient prophecy. The author continually quotes the Old Testament prophets,

sometimes indicating that the events took place to fulfil the prophecy, at others simply that they fulfilled the prophecy. The book was addressed specially to the Jews.

Matthew is the only evangelist who reports at length the Sermon on the Mount. He gives prominence to other discourses of Jesus. Like his fellow synoptists he gives details of the ministry of Jesus in Galilee, not speaking much of Jerusalem till the closing scenes drew nigh.

Matthews, (James) Brander, an American author; born in New Orleans, La., Feb. 21, 1852. He was graduated at Columbia College in 1871, and from Columbia Law School in 1873, being admitted to the bar the same year. He soon turned to literature, and steadily gained in reputation by his realistic studies of New York city life. Since 1892 he has been professor of Literature in Columbia University. In 1906 he was prominently identified as the "Apostle of Simplified Spelling." D. Mar. 31, 1929.

Matthias, one of the 70 disciples of Jesus Christ who was chosen by lot, in preference to Joseph Barsabas, into the number of the apostles, to supply the deficiency caused by the treachery and suicide of Judas. Nothing is known of his subsequent career.

Matthias, Emperor of Germany; born in Vienna, Feb. 24, 1557. At the age of 21 he was sent by the Emperor Rudolph II. to take the government of the Low Countries, but he was unequal to the task, and in a few years returned. In 1592 he commanded the army against the Turks in Hungary, and three years later became heir presumptive by the death of his brother Ernest. He was elected King of Hungary in 1607, King of Bohemia in 1611, and on the death of Rudolph in the following year he was chosen emperor. He resigned the crown of Bohemia to his cousin Ferdinand in 1617, and the persecution of the Protestants in that country by the latter occasioned the Thirty Years' War. He died broken down by the sense of the calamities impending over his dominions, March 20, 1619.

Matthias Corvinus, called the Great, King of Hungary and Bohemia; born in Klausenburg, March 27, 1443. He was the son of John Hunniades.

The enemies of his father confined him in prison in Bohemia; but, on regaining his liberty he was elected King of Hungary in 1458, when only 15 years of age. His election was opposed by many of the Hungarian magnates, who offered the crown to Frederick III. The Turks invaded the country, but were expelled by Matthias, who compelled Frederick to yield to him the crown of St. Stephen. The war being renewed, Matthias took Vienna and Neustadt, forcing the emperor to make peace. He died April 6, 1490.

Maubeuge, a town of N. France, in the Department of Nord; about 2 miles from the Belgian frontier. It was strongly fortified after the Franco-Prussian War (1870-71). The town is an important manufacturing center, with a population of about 20,000. It was razed several times, unsuccessfully besieged in 1814, forced to surrender, after a sturdy resistance, in the Hundred Days' War, and occupied by the Germans, Sept. 7, 1914.

Maurice, Prince of Orange and Count of Nassau, son of William the Silent; born in Dillenburg, Prussia, Nov. 13, 1567. After his father's assassination in 1584, the provinces of Holland and Zealand, and afterward Utrecht and the others, elected him their stadtholder. A great portion of the Netherlands was still in the hands of the Spaniards; but, under the leadership of Maurice, the Dutch, aided by an English contingent under the Earl of Leicester and Sir Philip Sidney, rapidly wrested cities and fortresses from their enemies. Finally, in 1609, Spain was compelled to acknowledge the United Provinces as a free republic. He died in The Hague, April 23, 1625.

Mauritia, a genus of palms. Natives of tropical parts of South America. The leaves are fan-shaped. Some species rise to the height of 100 or even 150 feet. The moriche, or sea palm, grows along the Amazon, Orinoco, etc., and yields a kind of sago.

Mauritius, or Isle of France, an island in the Indian Ocean, a colony of Great Britain, 500 miles E. of Madagascar; of an oval form, about 40 miles long from N. E. to S. W., and 25 miles broad, and surrounded by coral reefs; area, 720 square miles;

pop. (1921) 385,074, two-thirds originally coolies imported to work the sugar estates. It is composed chiefly of rugged and irregular mountains, the highest, the Montagne de la Riviere Noire, 2,700 feet, and the isolated rock Peter Botte, 2,600 feet. Between the mountains and along the coast there are large and fertile plains and valleys, having a rich soil of black vegetable mould or stiff clay. The climate is pleasant during the cool season, but oppressively hot in summer. Principal towns, Port Louis and Mahebourg. May, 1892, it was visited by a terrible hurricane, one-third of Port Louis being destroyed.

Maury, Dabney Herndon, an American military officer; born in Fredericksburg, Va., May 21, 1822; was graduated at the United States Military Academy in 1846; served with distinction in the Mexican War; and was instructor in the United States Military Academy in 1847-1852. When the Civil War broke out he resigned his commission in the United States army and joined the Confederate forces; was made department commander of the Army of the Gulf, in which capacity he served till the surrender of General Lee. Under President Cleveland's first administration he was minister to Colombia. He died in Peoria, Ill., Jan. 11, 1900.

Maury, Matthew Fontaine, an American scientist; born in Spottsylvania co., Va., June 14, 1806; joined the United States navy in 1825; met with an accident in 1839 which crippled him for life, and was then given charge of the Hydrographic Office in Washington. In 1844, when that office was united with the Naval Observatory, he became superintendent. In 1861 he resigned his post; entered the Confederate navy; established the naval submarine battery service at Richmond; and was engaged in Europe in perfecting a torpedo system till the end of the war. In 1865 he went to Mexico, was appointed a member of Maximilian's cabinet, and was sent to Europe on a special mission by the emperor. After Maximilian's fall he resumed his scientific and literary work. In 1871 he accepted the presidency of the University of Alabama. He died in Lexington, Va., Feb. 1, 1873.

Mausoleum, a magnificent tomb, or stately sepulchral monument. The name is derived from Mausolus, King of Caria, to whose memory his queen erected a splendid tomb at Halicarnassus.

Maxim, Sir Hiram Stevens, an American inventor; born in Sangerville, Me., Feb. 5, 1840; removed to England in 1881. He patented numerous inventions, including incandescent lamps, self-regulating current machines, the "Cordite" smokeless powder, etc.; but was best known as the inventor of the Maxim gun. D. 1916.

Maxim, Hudson, an American inventor; born in Orneville, Me., Feb. 3, 1853; became a mechanical engineer; engaged in the manufacture of ordnance and explosives; made the first smokeless powder in the United States; invented Maximite, the first high explosive to be fired through heavy armor plate; a torpedo-ram that does not imperil its operators; the U. S. service detonating fuse for armor-piercing projectiles; and other provisions for war-craft. D. May, 1927.

Maximilian I., Emperor of Germany, son of Frederick III.; born in Neustadt, March 22, 1459. He assembled the Diet at Augsburg, at which Luther appeared on citation, and appealed to the Pope. Maximilian was not only ambitious of dominion, and successful in his schemes of aggrandizement, but he had the desire to be Pope and to be canonized. He died in Wels, Upper Austria, Jan. 12, 1519.

Maximilian, so-called Emperor of Mexico, known in his earlier life as Ferdinand Maximilian Joseph, Archduke of Austria; born in Vienna, July 6, 1832; was the second son of the Archduke Francis Charles, and younger brother of Francis Joseph I., Emperor of Austria. After receiving a careful education he entered the Austrian navy in 1846, and after holding various subordinate commands he obtained the rank of rear-admiral, and was placed at the head of the Austrian marine. Quitting the naval service he was appointed Governor of the Lombardo-Venetian kingdom, February, 1857, and on July 27 following he married Princess Charlotte of Belgium, daughter of King Leopold I. On his return from a voyage made to Brazil for scientific purposes he fixed

his residence at Miramar, in the vicinity of Trieste, and there, Oct. 3, 1863, he received a deputation from the Mexican Assembly of Notables, who offered him the crown of their country. His scruples having been overcome, and having conditionally renounced his rights as an Austrian prince, he formally accepted the Mexican crown, April 10, 1864. Embarking in an Austrian frigate a few days later he landed at Vera Cruz on May 29, and entered Mexico on June 12. The decree of Oct. 3, 1865, in virtue of which the members of the Juarist bands and those who abetted them were shot, alienated the party of the Liberals. President Juarez raised the standard of independence; jealousies and misunderstandings arose with Bazaine; the impatience of the French people under the cost of the expedition, and the representations of the cabinet at Washington, which reproached the idea of European interference in attempting to establish a monarchy on the continent of North America, and notified the Emperor Napoleon to withdraw his troops;—all these complications and misfortunes thickening around Maximilian rendered his position critical in the extreme. The empress in vain undertook a mission to Europe to enlist support for her husband, and grief and disappointment overthrew her reason. The French were forced to retire; but Maximilian decided to remain in the hope of being able to maintain the empire. While bravely defending Queretaro against a Liberal force under Escobedo, he was betrayed by General Lopez on the night of May 14, 1867. By order of the Liberal minister of war he was, along with two of his generals, tried by court-martial and condemned to be shot. The representations of the various European powers failed to arrest the execution of the sentence, which was carried into effect at seven in the morning of July 19. His body was surrendered to his relatives, and his funeral celebrated with great pomp in the cathedral at Vienna on Jan. 18, 1868.

Maximinus, Caius Julius Verus, a Roman emperor. He was of barbarian origin, and was at first a shepherd in Thrace. He was a monster in size, strength, voracity, and

ferocity, and when about 20 years of age became a soldier in the Roman armies. His capacity for fighting procured his rapid advancement, and under Alexander Severus he had the command of a legion with which he served on the Rhine. In A. D. 235 he took part in a conspiracy against Alexander, and on his murder by the soldiers was proclaimed emperor. He continued the war in Germany and devastated a large tract of country. He next laid siege to Aquileia, which made heroic resistance to the hated tyrant. He was there murdered by his soldiers, together with his son, in 238. It is said that Maximinus was eight feet high, that he could eat 40 pounds of meat a day, and could break the leg of a horse with a kick.

Maximum, the greatest quantity or degree fixed, attainable, or attained, in any given case, as opposed to minimum, the smallest.

Maxwell, William Hamilton, an Irish novelist; born in Newry, County Down, Ireland, in 1792. He may be called the father of the military novel. After serving as an infantry captain, he became rector of Ballagh. There not being a Protestant in his parish, he devoted his ample leisure to field sports and literature. He died near Edinburgh, Scotland, Dec. 29, 1850.

May, the 5th month of the year, having 31 days. It was the 2d in the old Alban calendar, 3d in that of Romulus, and 5th in that of Numa Pompilius. In the Alban calendar it only had 26 days, in the calendar of Romulus 31 days, and in that of Numa 30 days. The odd day of which Numa deprived it was restored by Julius Cæsar.

Mayaguez, city and capital of Department of same name, Porto Rico; at W. extremity of the island; has considerable commercial importance, shipping sugar, molasses, tobacco, coffee, hides, turtle-shells, and fruit. Pop. (1920) 19,124.

Maya Indians, a race of aborigines of Yucatan, supposed to be the builders of Uxmal, Palenque, Chichen Itza, etc. Their history is important as throwing light on the civilization of the Central and South American races. The Mayas were the most advanced of

the North American aboriginal races, but today they are sadly degraded. Old Spanish records, a very few Maya books with old picture-writing, several MSS. written by Mayas in Maya, and ruined cities, grave-mounds, and relics attest their former condition. They surpass all American tribes in their architecture and in their carving in stone.

Though entirely without iron tools, these people were able to erect fine buildings of stone, carved with remarkable and beautiful designs. In the wild forests of Yucatan and Central America, in the midst of dense tropical woods, overgrown with trees and tangled vines, are the deserted ruins of upward of 40 ancient towns. These different towns were connected by paved roads of stone. In many cases the buildings were set upon a great flat-topped mound, with sloping sides and rectangular base and summit, strikingly like some of the "temple mounds" of the Southern States. Up one side of these mounds was a flight of stone steps, guarding the base of which were frequently a pair of great serpents or some wild beast carved in stone. The buildings themselves are very long, flat-topped, one story high, and contain many rooms. There are also temples for purposes of worship. In such there is usually found a tablet in the wall and an altar for sacrifice. The interior decoration of rooms was often elaborate, the walls being covered with stucco, on which were painted in brilliant colors paintings which furnish much information of the dress, manners, gods, and worship of the people.

May Apple, the fruit of a ranunculaceous plant growing in New Mexico. It is a low herbaceous plant, having the white flowers hidden by the overshadowing broad leaves.

Maybrick, Florence Elizabeth, an American; born in Mobile, Ala., in 1862, her father being William G. Chandler of that city. In 1881 she married James Maybrick, a cotton merchant, more than twice her age. He died in Liverpool, England, May 11, 1889. Mrs. Maybrick was accused of causing his death by administering arsenic, was tried in Liverpool in August following, found guilty and condemned to death. The sentence

was commuted to imprisonment for life. Serious doubts were raised as to the justice of the sentence and repeated efforts to obtain her release succeeded in 1905.

Mayer, Alfred Marshall, an American physicist; born in Baltimore, Md., Nov. 13, 1836. From 1871 till his death he was Professor of Physics in Stevens Institute of Technology, Hoboken, N. J. He published "The Earth a Great Magnet"; etc. He died in Maplewood, N. J., July 13, 1897.

Mayer, Brantz, an American journalist; born in Baltimore, Md., Sept. 27, 1809. He was a lawyer by profession; was attached to the American legation in Mexico, 1841-1842; served in the Civil War. He wrote several works on Mexico. He died in Baltimore, Feb. 23, 1879.

Mayflower, the vessel in which the Pilgrim Fathers sailed for this country.

Mayhew, Henry, an English author; born in London, England, Nov. 25, 1812. He was educated at Westminster School; made a voyage to Calcutta on a ship of war; returned and entered the law office of his father; started a comic paper called "Figaro" in London, which was succeeded by "Punch" (1841), of which he was one of the promoters. He died July 25, 1887.

Maynard, Edward, an American inventor; born in Madison, N. J., April 26, 1813; appointed a cadet in the United States Military Academy, but resigned owing to poor health. In 1835 he graduated in dental surgery and moved to Washington, where he practised till 1890, inventing many surgical instruments. He is best known for his inventions of firearms. His breech-loading rifle, patented in 1851, and known by his name, was the forerunner of the modern improved rifle. He died in Washington, D. C., May 4, 1891.

Maynard, Horace, an American statesman; born in Westboro, Mass., Aug. 30, 1814; was graduated at Amherst College, in 1838; was admitted to the bar; member of Congress from Tennessee in 1857-1863. He was a Union man during the Civil War and suffered heavy losses of property; was

again in Congress in 1866-1875. In 1875 he was appointed minister to Turkey and in 1880 Postmaster General. He died May 3, 1882.

Mayo, Henry Thomas, an American naval officer; born in Burlington, Vt., Dec. 8, 1856; was graduated at the U. S. Naval Academy in 1876; promoted to rear-admiral, June 15, 1913. He demanded an apology and salute from the Mexican commander for the attack on the U. S. dispatch boat "Dolphin" at Tampico, Mex., April 9, 1914; appointed commander of the battleship squadrons of the Atlantic fleet, with rank of vice-admiral, June 10, 1915.

Mayo-Smith, Richmond, an American educator; born in Ohio in 1854; was graduated at Amherst College in 1875; became a teacher of history in Columbia University; in 1878 was made an adjunct professor, and in 1883 Professor of Political Economy and Social Science. He died Nov. 11, 1901.

Mayotte, or Mayotta, an island in the Indian Ocean, one of the Comoros, at the N. E. entrance of the Mozambique Channel, and a French colony; length, about 30 miles; breadth, 20 miles; area, 140 miles; pop. (1915) 13,500. Some of its volcanic peaks are nearly 2,000 feet high.

Mazarin, Jules, an Italian ecclesiastic; born in Pescina, Italy, July 14, 1602. He became a cardinal, and succeeded the great Richelieu as prime minister of France. It is admitted that as a financial administrator he was far inferior to Richelieu. He was very niggardly and avaricious, and had acquired in various ways, fair and foul, an immense fortune, amounting to \$60,000,000, which he offered to the king, Louis XIV, shortly before he died. He died in Vincennes, France, March 9, 1661.

Maze, Hippolyte, a French historian; born in Arras, France, Nov. 5, 1839; died in Paris, Oct. 25, 1891. One of his books was on "The Republic of the United States." He was also a successful politician.

Mazeppa, Ivan Stephanovich, hetman of the Cossacks; born in Mazepintzi in 1644. He was descended from a poor but noble family of Podolia, and became a page at the court

of John Casimir, King of Poland. A Polish nobleman, having surprised him in an intrigue with his wife, caused him to be stripped naked and bound on his own horse, lying on his back, and with his head to its tail, and let the animal loose, leaving Mazeppa to his fate. The horse carried him, senseless from exhaustion, to its native wilds of the Ukraine. A more credible story is that his horse carried him through woods and thickets and brought him back torn and bleeding to his own home. Mazeppa now joined the Cossacks, became secretary to their hetman, Samoilovich, and in 1687 was elected his successor. He won the confidence of Peter the Great, who loaded him with honors and made him Prince of the Ukraine; but, on the curtailment of the freedom of the Cossacks by Russia, Mazeppa conceived the idea of throwing off the sovereignty of the czar, and for this purpose entered into negotiations with Charles XII. of Sweden. His treason was revealed to Peter the Great, who long refused to credit it. Mazeppa's hopes perished in the disaster of Pultowa, and he fled with Charles to Bender, where he died, Sept. 22, 1709.

Mazurka, or Mazourka, a Polish dance of lively grotesque character, the music being in 3-8 or 3-4 time with a peculiar rhythm.

Mazzini, Giuseppe, an Italian patriot; born in Genoa, June 28, 1805; was graduated at the University of Genoa (1826); admitted to the bar there; joined the Carbonari; was arrested by the authorities of Piedmont on the charge of conspiring against the government, but after being imprisoned for six months, was released for lack of evidence. He then left Italy, and resided in succession in Marseilles, Paris, and London, whence he agitated for the liberation of Italy. About 1832 he founded the famous secret revolutionary society "Young Italy." At the outbreak of the revolution of 1848 he returned to Italy, where he became a member of the triumvirate in the republic of Rome, but was again exiled at the restoration of the papal power. Being unwilling to take the oath of allegiance under a monarchy, he remained abroad. In 1870 he engaged in an in-

Mead

surrection at Palermo and was captured, but afterward released at the general amnesty after the occupation of Rome. He died in Pisa, Italy, March 10, 1872.

Mead, a fermented liquor made from honey mixed with water.

Mead, Edwin Doak, an American historical writer; born in Chesterfield, N. H., Sept. 29, 1849; studied in English and German universities. He was the author of "The Roman Church and the Public Schools," etc.

Mead, Larkin Goldsmith, an American sculptor; born in Chesterfield, N. H., Jan. 3, 1835; studied sculpture; he produced the colossal statue of "Vermont" for the Statehouse at Montpelier. While serving in the army in 1861 he sent graphic sketches of camp and battlefield to a New York illustrated paper. In 1862 he went to Florence, and in 1865 exhibited several works at New York. He executed the statue of Lincoln for the monument at Springfield, Ill., and the statue of Ethan Allen in the capitol at Washington. Died in 1910.

Meade, George Gordon, an American military officer; born in Cadiz, Spain, where his father was United States naval agent, Dec. 31, 1815; was graduated at the United States Military Academy in 1835; served in the Mexican War, but was mostly employed on survey duty and in the construction of lighthouses till the Civil War. In 1861 he obtained a brigade of volunteers, and during the Peninsular campaign received a severe gunshot wound. He distinguished himself at Antietam and at Fredericksburg, and was promoted Major-General in November, 1862. In June, 1863, he was placed in command of the Army of the Potomac, superseding Gen. Joseph Hooker. A week later the battles of Gettysburg had been fought under his command, and Lee's effort to carry the war into the country N. of the Potomac had been defeated. Meade became Brigadier-General in the regular army on July 3, and Major-General in 1864. After the war he commanded various military departments till his death, in Philadelphia, Nov. 6, 1872.

Meade, Richard Worsam, an American naval officer; born in New

Meander

York city, Oct. 9, 1837; entered the navy Oct. 2, 1850; served on the "St. Louis" and was with Commodore Ingraham, in Smyrna, in 1853; was promoted lieutenant-commander in 1862 and placed in command of the "Louisville"; commanded the naval battalion during the New York riots in July, 1863; captured seven blockade runners while in command of the "Chocorua," of the West Gulf squadron; was in charge of the American yacht "America" in her famous race with the British "Cambria" in 1870; and commanded the "Narragansett" 1871-1873, when his cruises covered 60,000 miles in the Pacific, in which he visited every important island. He was promoted captain in 1880; commodore in 1892; rear-admiral in 1894; and was retired at his own request May 7, 1895. He died in Washington, D. C., May 4, 1897.

Meadville, city; capital of Crawford Co., Penn.; the seat of Allegheny College (Methodist Episcopal) and a Unitarian theological school. Meadville was chartered as a city in 1866. Pop. (1930) 16,698.

Meagher, Thomas Francis, an Irish-American patriot; born in Waterford, Ireland, Aug. 3, 1823. He early devoted himself to the patriotic cause as a prominent and fearless member of the Young Ireland party. In 1848 he was sentenced to death under the "Treason-felony" Act, but was sent for life to Van Diemen's Land instead. He made his escape in 1852, studied law in the United States, but on the outbreak of the Civil War volunteered as a Union soldier. In 1861 he organized the "Irish brigade" and distinguished himself by his courage in the seven days' battles around Richmond, at the second battle of Bull Run, Fredericksburg, and Antietam. After the war he became secretary of Montana Territory, and while taking measures as temporary governor to keep the hostile Indians in check, fell from the deck of a steamboat into the Missouri, near Fort Benton, and was drowned, July 1, 1867.

Meander, in art, a peculiar style of ornamental design, in which the lines interlace; it is often used in decorating vases, and is also sometimes met with in architecture.

Measles, also called Rubeola, an acute infectious fever, chiefly affecting children. In a period from ten to fourteen days after contagion, symptoms of the disease begin to appear in sneezing, watering of the eyes, hoarseness a hard cough, and high temperature. On the fourth day of the fever a rash appears in blotches, crescentic in form, first upon the temples, and gradually extends over the whole surface of the body. It begins to fade about the seventh day.

Meath, a county of Ireland, province of Leinster, abutting on the Irish Sea; area 579,861 acres. Its coastline of 7 miles is low and sandy, and has no good harbor; the surface is generally level; and the principal rivers are the Boyne and the Blackwater. The land is mostly laid out in grass. Some coarse linens are manufactured, and there are one or two woolen factories. Principal towns, Navan and Kells. Pop. (1921) 71,400.

Meaux, a town of N. France; on the Marne river; 28 miles N. E. of Paris; has a large trade in cereals, wool, cheese, and other farm products; manufactures flour, lumber, hosiery, and machinery. Here in 1567 the Protestants tried to seize King Charles IX., and his mother, Catherine de' Medici, but both escaped. Meaux was the first town that opened its gates to Henry IV. in 1594; on the highway to Paris its environs were ravaged by the army of Lorraine in 1652; and it was laid under heavy requisitions in 1814, 1815, and 1870. Pop. about 15,000.

Mecca, or **Mekka**, the most celebrated city of Arabia; about 60 miles from Jidda, its port on the Red Sea; long the capital of an independent State in the Hejaz, and the birthplace of Mohammed. It is styled by Mohammedans Om-el-Kora (the mother of towns). In its center is the Beitullah (house of God), or El-Haram (The Inviolable)—the great mosque inclosing the Caaba (q. v.), occupying a square. The population of Mecca was formerly 100,000, though now estimated at 70,000. The Hadj or pilgrimage to the Caaba, customary among the Arabs in early and idolatrous ages, and subsequently enjoined by Mohammed on all his followers, is

the sole foundation of Mecca's fame, and the only source of its wealth and occupation.

There are several irregular and in some measure unsightly buildings around the Caaba. In one of these is the famous well of Zemzem, alleged to be the one whence Hagar obtained water for Ishmael. The water of Zemzem is perfectly fresh, though every other spring in the neighborhood is brackish. Few pilgrims leave the holy city without taking with them some flasks filled from the sacred well. The Meccawi, or inhabitants of Mecca, are, with the exception of a few Hejazi Bedouins, all strangers by birth or parentage.

As Mecca during the pilgrimage is visited by 100,000 strangers on an average, it becomes for three or four months in the year, the greatest market in the East. The Sherifs, or direct descendants of Mohammed, are now a numerous and widely spread body. They all wear the same costume, priding themselves on the green robe which marks their descent. These nobles elect the Sherif of Mecca, and their choice is formally confirmed by the Ottoman Sultan. Ptolemy mentions Mecca under the designation of Macoraba. The Wahabees took it in 1803; but in 1833 it was given up to Mehemet Ali. In 1916 Mecca became the capital of New Kingdom of The Hejaz.

Mechain, Pierre Francois Andre, an astronomer; born August 16, 1744, at Laon, France. His discovery and calculation of two comets in 1781 rendered him generally known; and he was among the first to delineate the probable orbit of the newly discovered planet Uranus. In the course of 18 years Mechain discovered 14 comets, the orbits of which he calculated. No important celestial phenomenon escaped his notice. He died in Castellon-de-la-Plana, in Spain, Sept. 20, 1804, of the yellow fever, a victim of his exertions in the cause of science.

Mechanics, the popular name for the science which treats of the action of force. It is divided into dynamics, which treats of motion and the forces producing it; and statics, which treats of forces compelling bodies to remain at rest.

Mechanism. Anything which changes one form of energy into another may be called a machine; mechanism consists of those arrangements of machinery by means of which a body, acted on by a certain force and moving in a particular path, communicates mechanical work to another body in such a way that it exerts a certain force and moves in another particular path.

Mecklenburg Declaration, a resolution said to have been adopted in May, 1775, at a midnight meeting of representatives of the militia of Mecklenburg co., N. C. It declared that the people of that county were free and independent of the British crown, and not only was its general tenor that of the Declaration of Independence, but many phrases are word for word as they appear in that document.

Medals of Honor, tokens bestowed by high authorities on individuals for specific services. By the Act of July 12, 1862, the United States government authorized the striking of 2,000 medals to be given to non-commissioned officers and privates for gallantry in action. On March 3, 1863, \$20,000 was appropriated for the medals, and officers were made eligible to receive them. Medals were authorized by Congress also for bravery during the war with Spain.

Medford, a city in Middlesex county, Mass.; on the Mystic river and the Boston & Maine railroad; 5 miles N. W. of Boston; is noted as the seat of Tufts College (Univ.) and as possessing the Craddock House, said to be the oldest building in the country (1634); has large print works and other manufactories. Pop. (1930) 59,714.

Media, in ancient geography, a country of Asia, which extended on the W. and S. of the Caspian Sea, from Armenia and Assyria on the N. and W., to Farsistan or Persia proper on the S. It covered a territory larger than that of Spain, and was one of the most fertile and earliest cultivated among the kingdoms of Asia. It had two grand divisions, of which the N. W. was called Atropatene, or Lesser Media, and the S., Greater Media. Ecbatana was the ancient capital. Media is one of the most ancient in-

dependent kingdoms of which history makes mention. The Medes conquered Babylon 2000 B. C., and the dynasty lasted 224 years. The Medians were in language, religion, and manners very nearly allied to the Persians. After they had shaken off the yoke of the Assyrians, their tribes united about 708 B. C., according to the common account, and chose Dejoces (Kai-Kobad) for their chief. His son Phraortes, or Arphaxad, subdued the Persians. Cyaxares (Kai-Kaous), the son of Phraortes, in alliance with Nabopolassar, King of Babylon, overthrew the Assyrian empire about 604 B. C., and spread the terror of his arms as far as Egypt. He was succeeded by his son Astyages (Asdehak), who was deposed (560 B. C.) by his own grandson Cyrus (Kai-Khusru), King of Persia; and from this time the two nations are spoken of as one people. Media was on several occasions separated from Persia. In 152 B. C., Mithridates I. took Great Media from the Syrians, and annexed it to the Parthian empire, and about 36 B. C. it had a king of its own, named Artavasdes, against whom Mark Antony made war. Under the Sassanian dynasty, the whole of Media was united to Persia.

Medical Jurisprudence, that branch of state medicine which is concerned with the administration of justice.

Medici, a distinguished Italian family of Florence, whose historical fame begins in 1351 with Giovanni de Medici, who with a small body of 100 men forced his way through a Milanese army which was besieging the fortress of Scarperia, and relieved the place. His son, Salvestro, enjoyed the rank of gonfaloniere from 1378 to his banishment in 1381. Giovanni, his son and successor, distinguished for his commercial enterprise, and for promoting the interests of the republic, flourished 1360-1428.

Cosmo, one of the sons of the latter, surnamed "Father of his Country," born in 1389. He early took part in the important commercial concerns of his father, and also in the government of the republic. He died August 1, 1464. Piero I., his son and successor, born 1414, became the victim of a revolt in 1460.

Lorenzo, usually styled The Magnificent; born Jan. 1, 1449, and the son of Piero, was carefully educated, and in 1469, succeeded his father as head of the Florentine Republic. The quiet of his reign was interrupted, in 1478, by the conspiracy of the Pazzi, to which Pope Sixtus IV. was a party. The conspirators attacked Lorenzo and his brother Giuliano in the Duomo, when the latter was killed and Lorenzo narrowly escaped. He died in 1492. He had three sons, one of whom, Giovanni, became Pope as Leo X.

Medicine, the science of diseases, and the art of preventing, healing, or alleviating them. Among the various departments of medical science, the science of health is called hygiene, or as far as it relates to the regulation of the diet, dietetics. Pathology is the science of disease, of that in which it consists, its origin, etc. Nosology treats of the various sorts of diseases, their origin and symptoms, and strives to arrange diseases according to a scientific classification. Pathological anatomy deals with the mechanical alterations and changes of structure. Therapeutics is the science of the cure of diseases, often divided into general, treating of the subject of cure in general, its character, etc.; and special, of the cures of the particular diseases. Surgery treats of external diseases and injuries, and the mode of relieving derangements by operative means. Obstetrics treats of the modes of facilitating delivery. *Materia medica* in the science of medicines. Pharmacy teaches how to preserve drugs, and to mix medicines. Clinics applies the results of these sciences at the bedside.

Medina, "the town of the prophet," a city of Arabia, 250 miles N. W. of Mecca, and after it the center of attraction to Mohammedans. In the World War Arabs in revolt took the city of Medina with Kinfuda on the Red Sea, June 28, 1916, and declared their independence of Turkey, July 15, following.

Mediterranean Sea, a large and important inland sea, and communicating at its W. extremity by the Strait of Gibraltar with the N. Atlantic Ocean, and at its N. E. extremity, by the Dardanelles and Bosphorus, with the

Black or Euxine Sea; greatest length, 2,300 miles; greatest breadth, from Venice to the Bay of Sidra, 1,200 miles; area, est. 690,000 square miles. It includes several other seas, as the Adriatic, Ionian, Tyrrhenian, and the sea of the Grecian Archipelago, besides several smaller inlets, such as the gulfs of Tarento in Italy, Lepanto in Greece, Cades, and Sidra, the ancient Syrtes in Africa, the bays of Lyon, Genoa, and Naples, etc. The coast of the Mediterranean is as remarkable for the difference of altitude as for variety of outline. In the N., with the exception of Italy, it is bold and rugged. On the E. and S. the country presents a low uninteresting flat, with rocky reefs and shoals projecting 5 to 7 miles from the shore, and which render the navigation near these shores both difficult and dangerous; and in this respect the S. side presents a striking contrast to the N., where generally speaking, deep soundings may be had close to the shore; while in parts, particularly between Nice and Genoa and near Gibraltar, no soundings can be found less than 1,000 fathoms. The principal rivers which flow into the Mediterranean are the Ebro, Rhone, Po, and Nile. The evaporation from the surface of the Mediterranean is greater than in the Atlantic Ocean, owing to the heat which proceeds from the African deserts, and the shelter which the mountains afford from the cold winds of the N. In consequence of this evaporation it contains a sixth per cent. more salt than the waters of the Atlantic Ocean. The Mediterranean was long considered tideless, but the tide rises from 5 to 7 feet. The prevalent winds vary during the spring between S. E. and S. W.; at other times from N. W. to N. E. The shores are in many places subject to earthquakes. There are also the active volcanoes of *Ætna*, *Vesuvius*, and *Stromboli*, and many evidences of volcanic action as the sudden upheaving of islands, and their equally sudden disappearance. Water spouts are of frequent occurrence, especially along the coast of Asia Minor. Several springs of fresh water rise in different parts of the Mediterranean; the largest being in the port of Tarento, near the mouth of the *Galesus*, where the fresh water ascends with such impetuosity, and in such a vol-

ume that it may be taken up at the surface without the least impregnation of salt. The Mediterranean possesses several large islands, including Sicily, Sardinia, Malta, Corsica, Crete, and the Balearic Islands, besides a large number of small ones. Around it lie some of the most historically interesting countries of the civilized world.

Medlar, a much-branched spinous tree. The fruit is gathered, and kept several weeks to ripen before being eaten. Grows in Central Europe, West Indies, South America, and Japan.

Medulla Oblongata, the cranial prolongation of the spinal cord, of similar structure, but differing by a peculiar arrangement of the strands of the cord before entering into and forming a connection with the brain. In it are found the great ganglionic centers which control respiration, deglutition, vomiting, etc.

Medusa, in classical mythology, one of the Gorgons who, giving offense to Minerva, had the fine hair, on which she prided herself, turned to serpents; her eyes were also endowed with the power of converting every one who looked at her into stone.

Medusæ (the plural): Jelly-fishes. The most common species is often seen on sandy sea shores like a mass of jelly. The genus is so named because the organs of motion on the animal spread out so as to resemble the snaky hair of the fabulous Medusa.

Meehan, Thomas, an American botanist; born in England, March 21, 1826; immigrated to the United States at an early age; was mainly self-educated; and became botanist to the Pennsylvania State Board of Agriculture at its formation. Died, 1901.

Meek, Alexander Beaufort, an American jurist and author; born in Columbia, S. C., July 17, 1814. He served in the Seminole war, was attorney-general of Alabama; judge of Tuscaloosa county; member of the Legislature, where and when he established the free-school system of Alabama, and Speaker of the Alabama House. Besides a legal digest he wrote history and poetry. He died in Columbus, Miss., Nov. 30, 1865.

Meerschaum, a peculiar silicated magnesian mineral found in several parts of Europe, but mostly in Greece

and Turkey. In the last-mentioned country it is extensively used as fullers' earth, but in Austria and Germany it is adapted to the manufacture of tobacco pipes. The true meerschaum always turns from a pure milk-white to a brownish black color when smoked for some time, and to connoisseurs this is a true criterion between true and false meerschaum.

Megalonyx, a genus of large, sloth-like edentates from the post-Pliocene of North America. The fore limbs are shorter than the hind limbs, and the calcaneum is excessively long. The animal was named in 1797 by Jefferson, President of the United States, who thought the remains were those of a gigantic carnivore at least five feet in height.

Megalosaurus, a gigantic Oolitic reptile of the Dinosauria, occurring also in the Weald Clay. Its length has been variously estimated from 40 to 50 feet. Owen says that some of the remains "indicate a reptile of at least 30 feet in length." As the cylindrical bones contain medullary cavities, it is clear that *Megalosaurus* was terrestrial. That it was carnivorous is evidenced by the teeth.

Megaphone, an instrument invented by Thomas A. Edison for carrying the sound of the voice long distances without the aid of wires. It is composed of two large funnels in which the waves of sound are collected and concentrated and carried by means of tubes held to the ears of the person using the instrument. In the instrument called telephone-megaphone, the mouthpiece of the telephone is connected with four transmitters which multiply the usual telephone sound of the voice by four, and it is sent by wire, so increased, into the megaphone, which sends it forth into space with sufficient intensity to carry it with perfect distinctness throughout a large church or hall.

Megapodius, mound-bird. They are found in the Samoa Islands, the Tonga group, the New Hebrides, the N. portion of Australia, in New Guinea and the neighboring islands, in the Celebes, the Pelew islands, the Ladrões, the Philippines, Labuan, and the Nicobars. They are about the size of small fowls. The popular name has reference to the peculiar habits of

these birds. They heap up large mounds, of which vegetable matter is the principal component; in the center of this mass they deposit their eggs, and, covering them up, leave them to be hatched by the heat of the fermenting mass.

Megaris, in ancient geography, a small mountainous region of Hellas, or Greece proper, lying between Attica and the Isthmus of Corinth. The people were excellent sailors, and founded several colonies, of which the most famous were Byzantium (667 B. C.), Chalcedon, and Megara (Hyblæa) in Sicily.

Megatherium, a genus of extinct edentates, founded on a nearly com-

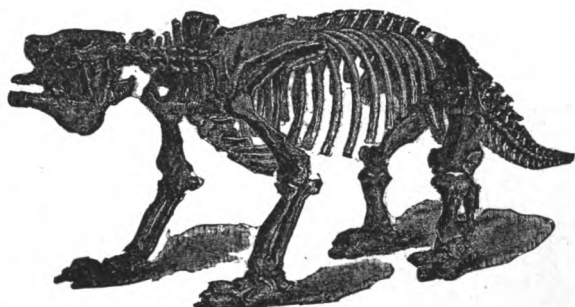
plete skeleton discovered on the banks of the Lujan, about 9 miles from Buenos Ayres, and sent by the Marquis of Loreto, the viceroy, to the Royal Museum of Madrid. The best-known species was nearly as large as an elephant, though the limbs were shorter. Its mounted skeleton measures 18 feet in length, of which the tail occupies five. Dr. Leidy

has described a smaller species from the post-Tertiary of Georgia and South Carolina; and there is a third, founded on remains from Brazil.

Megrims, or **Vertigo**, the term usually applied when a horse at work reels, and then either stands for a minute dull and stupid, or falls to the ground, lying for a time partially insensible.

Mehemet Ali, Viceroy of Egypt; born in Kavala, Macedonia, in 1769. He entered the Turkish army and served in Egypt against the French; rose rapidly in military and political importance; became Pasha of Cairo, Alexandria, and subsequently of all Egypt. In 1811 he massacred the Mamelukes to the number of 470 in Cairo, and about 1,200 over the country. He then commenced, by the or-

ders of the Porte, a war of six years' duration against the Wahabees of Arabia, which was brought to a successful conclusion by his son Ibrahim, and secured him the possession of Hejaz. Ibrahim also aided in bringing a large part of the Sudan under Egyptian rule. In 1824-1827 he assisted the Sultan in endeavoring to reduce the Morea, which led to the destruction of his fleet by the allied European powers at Navarino. Subsequently he turned his arms against the Sultan, and in his efforts to secure dominion over Syria by armed invasion, he was so far successful that the European powers had to interfere and compel him to sign a treaty in



MEGATHERIUM.

1839, which gave him the hereditary pashalic of Egypt. In his latter days he sank into dotage. He died in Cairo, Egypt, Aug. 2, 1849.

Mehmed V. (Mehemmed Reschad), Sultan of Turkey, was born in 1844, son of Sultan Abdul-ul-Medjid, and brother of Murad V. and Abdul-Hamid II. The latter kept him in seclusion from 1876 until April 27, 1909, when he was made Sultan and Abdul-Hamid deposed. He changed his name from Mehemmed (Mohammed, *q.v.*) to Mehmed V.

Meigs, Montgomery Cunningham, an American military officer; born in Augusta, Ga., May 3, 1816; was graduated at the United States Military Academy in 1836; served several years as engineer and in 1852 was appointed to superintend the ex-

tension of the Capitol at Washington. He also prepared the plans of several government buildings. In May, 1861, he was promoted quartermaster-general U. S. A., in 1864 was brevetted Major-General and was retired in 1882. He died in Washington, D. C., Jan. 2, 1892.

Meissonnier, Jean Louis Ernest, a French painter; born in Lyons, France, Feb. 21, 1815. All his works were painted with Flemish care and finish, but were thoroughly original in their treatment. His pictures, though of small size, sold for large sums. He died in Paris, Jan. 31, 1891.

Meistersingers, a society of German citizens formed in the 13th century for the cultivation of poetry.

Melanchthon, Philip, Luther's fellow laborer in the work of the Reformation; born in Bretten, in the Rhenish Palatinate, Feb. 16, 1497. His name was Philipp Schwarzerd, of which Melanchthon is the Greek equivalent. His father, George, was armorer to the Pfalzgraf, and died in 1507; his mother, Barbara, was a kinswoman of Reuchlin. He attended the school of Pforzheim, and as early as 1510 entered the University of Heidelberg, where in 1512 he took the degree of Bachelor of Philosophy; in the same year he went to Tubingen, devoted himself to theology, and having in 1514 attained his degree of Master, delivered lectures on the Aristotelian philosophy and the classics. Through the recommendation of Reuchlin he was called in 1518, as Professor of the Greek Language and Literature, to Wittenberg. He soon decided for the newly promulgated evangelical doctrines, and contributed as much to the progress and prosperity of the Reformation as the zeal and enterprise of Luther in pushing forward and defending the movement. Already, in 1519, in the literary war which followed the Leipsic disputation, he came forward as a champion of Luther's opinions. In drawing up the "Augsburg Confession" (1530) he displayed a marvelous strength of religious conviction, combined with a prudence which embraced every requisite consideration.

This masterpiece, together with the apology for the "Augsburg Confession," which he drew up shortly after-

ward, carried his name throughout Europe, and brought him an invitation from Francis I. to visit France and assist at a conference for accommodating the religious differences of that country. It also brought him an invitation to England. On a journey which he undertook to attend a religious conference at Hagenau in 1541 he was taken ill at Weimar. Luther hastened to him, and believed that his life was spared in answer to his prayer alone. The conference at Hagenau did not take place, and he went in 1541 to Worms and shortly afterward to Ratisbon to conduct the affairs of the Protestants in a conference for reconciliation with the Catholics. He had the mortification to find that the peace he ardently desired was not to flow from these conferences, and received bitter reproaches from his own party for the concessions made by him in them. A like experience befell him when, called by the Elector Hermann to Cologne, he tried to introduce the Reformation there (1543) in a spirit of toleration for the Catholics. The friendship between him and Luther, though often tried by their difference of temperament, continued unbroken till the death of the latter (1546), when Melanchthon honored him with a biographical memorial.

A great part of the confidence which had been reposed in Luther was then bestowed on Melanchthon. The spirit of concession which he had repeatedly manifested was, however, far from being acceptable to many theologians. In the controversy which arose about these concessions he was looked on almost in the light of a traitor. Other subjects of contention arose in regard to doctrinal points. The alterations which he had made in the "Augsburg Confession" during Luther's lifetime, and which had long passed unquestioned, were now regarded as conclusive proof of declension from orthodoxy. Melanchthon had always differed somewhat from Luther in the development of his doctrines, but the Lutheran doctrines had since the death of Luther acquired a systematic rigidity which was now held up as the standard of evangelical truth. All these things caused many vexations to Melanchthon. He had little cause for regret when the war between the Elector

Melanesia

Maurice and the emperor prevented his participation in the Council of Trent, to join which he had in January, 1552, journeyed as far as Augsburg. His orthodoxy was recognized by the theological convention of Naumburg in 1554. A final attempt which he made in 1557, at the convention of Worms, to bring about a reconciliation with the Catholics, again proved a failure. This was his last public work. He died in Wittenberg April 19, 1560.

Melanesia, a group of islands stretching from the N. E. of New Guinea to the tropic of Capricorn, and including New Britain Archipelago, Solomon Islands, Queen Charlotte or Santa Cruz Islands, New Hebrides, New Caledonia, Loyalty Islands, and the Fiji Islands. The Melanesians (Black Islanders) are of a very dark color; the hair is woolly and curly but not crinkled.

Melba, Nellie (Mitchell), an Australian prima donna; born in Melbourne, Australia, May 19, 1865; studied under Madame Marchesi in Paris, and made her debut in Brussels, Oct. 15, 1887. Since then she has sung in all the principal cities of the United States and Europe with brilliant success. Died Feb. 24, 1931.

Melbourne, the largest city of Australia; capital of Victoria; is situated on the Yarra Yarra river, a stream of no great size, Melbourne proper being several miles from its mouth, while suburban extensions reach the shores of Port Phillip bay, into which the river flows. The shipping trade is large both in exports and imports, the chief of the former being wool, of the latter manufactured goods. Most imports are subject to a heavy duty.

By its railway system the city is connected with all the principal towns of the Australian continent. The first settlements on the site of Melbourne were made in 1835, and a year or two after it received its present name, being so called after Lord Melbourne, who was then British prime minister. It was incorporated in 1842. In 1851 it became capital of Victoria (then established as a separate colony), and received an immense impetus from the discovery of gold fields. A centennial exhibition was held in 1888 in celebration of the founding (in 1788) of

Melon

the Australian colonies. The first Parliament of the Commonwealth of Australia was opened in the Exhibition building on May 9, 1901, by King George V. Pop. of the Greater Melbourne (1921) 795,100.

Melchizedek ("King of righteousness"), in the story of Genesis, King of Salem and priest of "Supreme El." He met Abram on his return from the victorious expedition against Chedorlaomer, gave him his blessing, and received tithes from him. The antilegal king-priest stands in Psalm cx. as a figure typical of the vicegerent of Jehovah, and in Hebrews, vii: 3, of the kingly priesthood of Jesus.

Meline, James Florant, an American historical writer; born in Sackett's Harbor, N. Y., 1811. His later years were devoted to literary work. Died in Brooklyn, N. Y., Aug. 14, 1873.

Melinite, an explosive, discovered in 1886-1887, and said to possess 10 times the force of nitro-glycerine. The two men who discovered the principles of melinite are Captains Locard and Hiron dart. The name melinite was bestowed because in color it resembles honey (miel). The destructive power of the explosive is 100 times that of ordinary gunpowder and 10 times that of nitro-glycerine.

Mellifont Abbey, a ruin 4 miles N. W. of Drogheda, was the first Cistercian foundation in Ireland, founded by St. Malachy in 1142. In 1539, when it surrendered to Henry VIII.'s commissioners, it had 140 monks. Its remains were excavated during 1884-1885.

Melloca, or **Melluco**, is cultivated under the name of Oca quina for its tuberous roots in the Andes of Peru and Bolivia.

Melodeon, a wind instrument with a row of reeds and operated by keys.

Melodrama, originally a dramatic piece in which the interest was heightened by the character of the vocal or instrumental music accompanying certain situations. The melodrama is of French invention.

Melon, a well-known climbing or trailing plant with a succulent and refreshing fruit, the varieties of which, including water-melon and muskmelon, are widely cultivated in the United States.

Meles (Italian Milo), a Greek island, the most S. W. of the Cyclades; length 13 miles, width 8 miles. The island is volcanic, and produces sulphur, salt, pumice stone, stucco, millstones, and a little oil and wine. Among the ruins of the ancient city of Melos, and near its theater, was found the Venus de Milo, now one of the chief treasures of the Louvre.

Melpomene, the muse of tragedy.

Melrose, a city in Middlesex county, Mass.; on the Boston & Maine railroad; 7 miles N. of Boston; is chiefly engaged in the manufacture of rubber boots and shoes, electrical apparatus, and skirts. Pop. (1930) 23,170.

Melrose, a village of Scotland, county of Roxburgh; on the Tweed, 31 miles S. E. of Edinburgh. It is celebrated for possessing the finest monastic ruin in Scotland. Melrose Abbey, originally founded by David I., in 1136, was destroyed by Edward II. of England in 1322. In 1336 it was rebuilt by Robert Bruce, and completed in the reign of James IV., about 1488-1513. It was again destroyed by the English in 1545. It was of Gothic style, and the ruins still attest its grandeur and magnificence.

Melville, the name of an island, a sound, and a peninsula in the polar regions of North America. The island is separated on the W. by Fitzwilliam Strait from Prince Patrick Island; greatest length, 200 miles; greatest breadth, 130 miles. In 1819 Parry, who gave the island its name, passed the winter here with his crews.

Melville, George Wallace, an American naval officer; born in New York city, Jan. 10, 1841. He entered the navy in 1861; was Engineer-in-Chief in 1887-1903; got out designs for 120 vessels; planned the triple-screw commerce destroyers "Columbia" and "Minneapolis"; distinguished himself on three Arctic expeditions and was specially honored by Congress; Rear-Admiral, 1899; retired, 1903; died March 17, 1912.

Membrane, an expansion of any tissue in a thin and wide layer. Among the most important membranes in the body are those of the brain: viz.: the dura mater, the arachnoid, the pia mater and the falk.

Memel, a city in the Republic of Lithuania, was in the German Empire before the World War. It is on a small sound connecting the Kurishes Haff with the Baltic Sea; 9 miles from the Russian border; 75 miles E. of N. of Königsberg. It has a large trade in timber, grain, and fish, and manufactures ironware, beer, spirits, soap, chemicals, and machinery. In the 13th, 14th, and 15th centuries the town was repeatedly burned by Lithuanians and Poles, and in 1854 the greater part was destroyed by fire. Pop. about 23,000.

Memnon, in Greek mythology, a son of Eos (the morning) and Tithonis (Titan, a name for the sun), represented in the legend as a son of Laomedon and brother of Priam. The famous statue called by the Greeks Memnon, in the sepulchral quarter of Thebes called Memnoneia, which possessed the real or imaginary property of emitting a sound like that of a harp at the rising of the sun, is supposed to have been in the building called by Champollion the Rhamesseion, from its reputed founder Rhameses, or Sesostris, of which the stupendous ruins are still seen.

Memory, the mental faculty or power which causes the impressions of bygone events, at ordinary times latent in the mind, to affect it anew or to be reproduced by an effort for the purpose.

Memphis, a celebrated city of Egypt, on the W. bank of the Nile, 10 miles S. of the modern city of Cairo. Herodotus ascribes the foundation of this place, the Moph of the Old Testament, to Menes, first king of Egypt; the date has been assigned from 3893 B. C. to 2100 B. C. The most celebrated of its sacred buildings were, the temple of Ptah, or Hephaestus—the elementary principle of fire—said to have been coeval with the foundation of the city, and improved and beautified by several monarchs; the temple of Proteus, said to have been founded by the Phœnicians about the era of the Trojan war; the temple of Isis, founded at an early period, and completed by Amasis 564 B. C.; and the temple of Apis, called the cathedral of Egypt, founded by Psammetichus. The position of Memphis was such as

to command the whole inland trade of Egypt, ascending or descending the Nile; it was the chief seat of learning and religion in Egypt. It ceased to be the metropolis of Egypt on the foundation of Alexandria, 332 B. C. It soon after fell into such obscurity and decay, that, till lately, even its site, overwhelmed with drifted sand, was disputed.

Memphis, a city and county-seat of Shelby co., Tenn.; on the Mississippi river. The city is one of the largest trade centers for cotton in the United States, shipping annually more than 500,000 bales. It has also large manufacturing interests, including cottonseed oil, flour, grist, and planing mills, foundries and machine shops, carriage and wagon works, brick and tile plants, tobacco factories, etc. The city has an assessed property valuation of over \$84,000,000. In 1862 a naval battle was fought here, resulting in victory for the Union vessels, and the city was occupied by the National authorities. Pop. (1920) 162,351; (1930) 253,143.

Menahem, the 16th King of Israel, previously general of the army of Zachariah. He was at Tirzah when he heard of his master's murder; and immediately marching against Shallum who had shut himself up in Samaria, he captured and slew him, and then ascended the throne. He reigned in Samaria 10 years, 771-760 B. C., and was a tyrannical and cruel idolater. He seems to have died a natural death; but his son and successor, Pekahiah, reigned only two years, and was the last of that dynasty.

Menander, one of the most celebrated of the Greek comic poets; born in Athens in 242 B. C. He composed 108 comedies, of which few fragments were known until M. Lefebvre, Dec., 1906, discovered papyri of 1,200 lines. Menander drowned himself at Piræus, through jealousy of his rival, Philemon, 291 B. C.

Mendelssohn, Moses, a German-Jewish philosopher, commonly called the "Socrates of the Jews"; born in Dessau, Germany, Sept. 6, 1729. He devoted himself to literature, in which he acquired a distinguished reputation. In 1742 he settled at Berlin. He was remarkable for the philosophical mild-

ness of his disposition, and for the excellence of his character; and he was esteemed by persons of the most opposite opinions. He died in Berlin, Prussia, Jan. 4, 1786.

Mendelssohn-Bartholdy, Felix, a German composer; born in Hamburg, Feb. 3, 1809. He was the son of a rich banker, and the grandson of the above philosopher. The precocity of his talent surpassed even that of Mozart. Before he was eight years of age, the accuracy of his ear, the strength of his memory, and, above all, his incredible facility in playing music at sight, excited the wonder of his teachers. In his ninth year he performed at a public concert in Berlin, to the admiration of his audience. The following year the boy artist accompanied his parents to Paris; and when he was 12 years old, he composed his pianoforte quartette in C minor, which is still found to be full of interest and originality. His first compositions were published in 1824. Three years afterward he made a musical tour through Italy, France, and England; and gave, in London, his first symphony, and his overture to the "Midsummer Night's Dream," which produced an electrical effect. But his genius, as it reached maturity, became more and more profound and lofty; and his two oratorios, "Paulus," and "Elijah," will form his most enduring monuments. He died in Leipzig, Nov. 4, 1847.

Mendive, Rafael Maria de, a Cuban poet; born in Havana, Cuba, Oct. 24, 1821. Banished in 1869, he lived alternately in New York and Nassau, writing legends and stories in verse. He died in Matanzas, Cuba, in 1886.

Mendoza, Antonio de, a Spanish statesman; born about 1485. He was appointed Viceroy of Mexico (New Spain) in 1535, being the first of 64 viceroys with the best and longest administration. In 1551 he became Viceroy of Peru, where he had prepared a code of laws that has been the basis of the colonial and the present laws of the republic. Died in Lima, July 21, 1552.

Menelaus, in Greek legend, one of the Greek heroes, a King of Sparta, brother of Agamemnon, and the unfortunate husband of the lovely but

faithless Helen, whose flight with Paris, the youthful envoy from Priam, led to the Trojan war.

Menelek, or Menelik, II. King or Negus of Abyssinia; son of Hailo Menelek, King of Shoa; born in 1842; succeeded Johannes II. in 1889, and was crowned in 1890. He was of Negro blood with a strain of Jew, Arab and Galla, and claims descent from Solomon and the Queen of Sheba. At the battle of Adowa, in the spring of 1896, his troops inflicted an overwhelming defeat on the Italian army, thus securing the independence of his territories. Special efforts were made since then to open trade for Americans with the country. He died March 30, 1910. See **ABYSSINIA**.

Menes, the conductor, the first king of the first Egyptian dynasty, who built Memphis, made foreign conquests, introduced luxury, and was devoured by a hippopotamus.

Mengs, Anton Raphael, one of the most distinguished artists of the 18th century; born in Aussig, Bohemia, March 12, 1728; was the son of an indifferent Danish artist who had settled in Dresden. From the sixth year of his age the young Raphael was compelled to exercise himself in drawing daily and hourly, and a few years later was instructed by his father in oil, miniature, and enamel painting. His first great compositions appeared in 1748, and met with universal admiration. A "Holy Family" was particularly admired, and the young peasant girl who served him as a model became his wife. On his return to Dresden the king appointed him principal court painter. In 1761 Charles III. invited Mengs to Spain, where his principal works at this time were an "Assembly of the Gods" and a "Descent from the Cross." Returning to Rome he executed a great allegorical fresco painting for the Pope in the Camera de' Papiri, and after three years returned to Madrid (1773). At this time he executed the "Apoteosis of Trajan" in fresco, his finest work. In 1776 he returned once more to Rome where he died in 1779.

Menin, a town of Belgium, 7 miles S. W. of Courtrai and 11 miles N. of Lille; on the left bank of the Lys river, which separates it from France.

E.-51.

It manufactures lace, cotton, linen, flannel, soap, tobacco, leather, and beer. It was strongly fortified up to 1748, and since 1350 has had historical interest. Turenne occupied it in 1568; soon afterward it was ceded to Spain; France recaptured it in 1667; and it frequently changed hands later.

Mennonites, the followers of Menno Simons (1492-1559), a priest at Witmarsum, in Friesland, who resigned his position from religious convictions. The discipline of the Mennonites involved separation from the world, to the extent of refusing to bear arms or to fill any civil office. There is no hierarchy, but exhorters were chosen by the congregations, each of which was independent of all the rest, and from these exhorters elders were selected to administer the sacraments. The Mennonites spread over Switzerland, Germany, Holland, France, the United States and Canada. In 1926 they reported 307 churches, 608 ministers, and 34,039 members in the United States.

Menopome, a large North American amphibian in the Salamander order found in the rivers of the Mississippi basin, and well known as the "hellbender," "alligator," "water-dog," etc.

Mensa, or Mons Mensa, one of the 14 constellations which Lacaille added to the heavens in connection with his work at the Cape of Good Hope. It is named from the mountain which is a conspicuous feature of the landscape at the Cape. The constellation is a very inconspicuous one near the South Pole, its brightest star being only of 5.3 magnitude.

Menstruation, a sanguineous flow from the lining membrane of the uterus, regularly returning once a month. It generally begins about the 15th year, indicating pubescence, and terminates about the 45th. It is sometimes prolonged.

Mensuration, that branch of applied geometry which gives the rules for finding the lengths of lines, the areas of surfaces, and the volumes of solids.

Menthol, a white crystalline substance obtained from oil of peppermint, and considered a valuable remedy in neuralgic affections of the face and

Mentor

head. The so-called "headache pencils" are simply preparations of menthol in a solid form; the pencil is rubbed over the affected part, and the throbbing ache is immediately alleviated.

Mentor, in Greek legend, the faithful friend of Ulysses, who intrusted to him the care of his domestic affairs during his absence in the war against Troy. The education of the young Telemachus fell to his charge, and the wise and prudent counsel which he gave the youth has given to his name its metaphorical significance.

Mephistopheles, the name of one of the best-known personifications of the principle of evil. Mephistopheles owes all his modern vitality to Goethe's "Faust."

Mercator, Gerard, geographer; born at Rupelmonde, in Flanders, 1512; died 1594. He studied at Louvain; became a lecturer on geography and astronomy; entered into the service of Charles V., for whom he made a celestial and terrestrial globe; and in 1559 he retired to Duisburg as cosmographer to the Duke of Juliers.

Mercenaries, or Stipendiaries, men who received pay for their services as soldiers, especially as distinguished from the feudal and general levies owing military service to the crown. Such men were usually foreigners; hired professional soldiers appear very early in the history of military organization. The wars of the Middle Ages were largely fought with hired mercenaries, and Hessians were hired by George III., for the Revolutionary War.

Mercer University, an educational institution in Macon, Ga.; founded in 1837 under the auspices of the Baptist Church.

Mercier, Honore, a Canadian statesman; born in St. Athanase, Quebec, Oct. 15, 1840. He studied law, and was engaged in journalism. He sat in the Dominion Parliament and became solicitor-general of the legislative assembly of Quebec, and attorney-general in 1887. In the last year he became premier, but resigned in 1891. Died in Montreal, Oct. 30, 1894.

Mercury, in astronomy, the planet nearest the sun, unless indeed it be established that the hypothetical

Mercury

Vulcan really exists. Its stationary points are from 15 to 20 degrees of longitude from the sun, hence it rises and sets not far from the time when the sun does so. The light of the sun and the haze of the horizon combine to render observation of the planet difficult. It varies in brightness from 15" to 12" of the celestial circle or vault. It is sometimes telescopic, and at other times visible to the naked eye, being as bright as a star of the second magnitude. It was known to the ancients. Its diameter is about 3,200 miles; its mass about 1-19 that of the earth; its sidereal period is 88 terrestrial days. It is seen at its greatest brightness as an evening star, at



THE PLANET MERCURY.

average intervals of about 116 days. Its average distance from the sun is 36,000,000 miles. Its greatest and least distances differ nearly 15,000,000 miles. It moves in its orbit about 109,360 miles an hour against 68,040 performed in the same time by the earth. The orbit of Mercury is remarkable for its extreme eccentricity, the distance from the sun varying periodically from about 28,500,000 to 48,500,000 miles. The effect of this would be that, supposing there were any inhabitants of Mercury, within a period of about six weeks, the sun would double in apparent size, and give about double the

quantity of light and heat. The planet is supposed to rotate on its axis in 88 days. Transits of Mercury over the sun's disk occur like those of Venus, but more frequently. Spectroscopic observations indicate that Mercury has a thin atmosphere, in which water vapor is present.

Mercury, the only liquid metal at ordinary temperatures; found in the form of mercuric sulphide or cinnabar. It possesses a lustre like polished silver. Mercury is invaluable to the chemist, who employs it in collecting gases which are soluble in water. It is also used in extracting gold and silver from their ores, in silvering mirrors, and in gilding.

Mercury, a Roman deity, identified with the Greek Hermes. He was the messenger and herald of the gods, and as such he was represented as a youth, lightly clad, with the petasus or winged hat, and wings on his heels, bearing in his hand the caduceus or emblem of his office as a herald, a rod with two serpents twined round about it.

Mercy, Sisters of, the name given to members of female religious communities founded for the purpose of nursing the sick at their own homes, visiting prisoners, attending hospitals, superintending the education of females, and the performance of similar works of charity and mercy.

Mercy Seat, the golden covering placed on the ark of the testimony. Like the ark, it was two-and-a-half cubits (3 feet 9 inches) long, and one-and-a-half (2 feet 3 inches) broad. At each end was a cherub, the two looking face to face, and covering the mercy-seat with their wings. The whole was put in the most holy place of the tabernacle, and afterward of the temple. On the great day of the Atonement, Aaron, the high priest, cast incense on coal (charcoal) burning in a censer, and the cloud of sweet-scented spices which thence arose covered the mercy seat, God, whose special dwelling when He visited the place was between the cherubim appearing in the cloud. The mercy seat was also sprinkled seven times with the blood of a bullock and a goat, offered as a sin offering. Jehovah spoke to Moses from off the mercy seat. In

the New Testament the entry of the high priest into the most holy place is made symbolical of the entry of Christ into heaven, to pursue His work of intercession, and of the approach of the Christian to God by the blood of Jesus, whence, in devotional language, an approach to the mercy seat signifies an approach to God in prayer.

Meredith, George, an English poet and novelist; born in Hampshire, England, in 1828. He was educated in Germany; studied law, but essayed a literary career with a volume of poems in 1851. As a writer both of poetry and prose he has been eminently popular. Died May 18, 1909.

Merganser, a genus of aquatic birds belonging to the duck family. The merganser of North America is occasionally found in Europe.

Mergenthaler, Ottmar, an American inventor; born in Wurtemberg, Germany, May 10, 1854; came to the United States in 1872 and received a government position in Washington to care for the mechanism of bells, clocks, and signal service apparatus; became connected with a mechanical engineering firm in Baltimore, Md., in 1876. Subsequently, while still engaged with that company, he began experiments which resulted in the invention of the type setting machine bearing his name. He died in Baltimore, Md., Oct. 28, 1899.

Mergui Archipelago, a group of islands in the Gulf of Bengal, lying off the S. provinces of Burma; they are mountainous, some rising to 3,000 feet, of picturesque beauty, and sparsely inhabited by a race called the Selungs.

Merida (ancient Augusta Emerita), a decayed town of Spain, on the right bank of the Guadiana, 36 miles E. of Badajoz. It is remarkable for its Roman remains, which include a bridge of 81 arches, 2,575 feet long and 26 feet broad, erected by Trajan; the ruins of half a dozen temples, of an aqueduct, a circus, a theater, a naumachia, a castle, and the Arch of Santiago, 44 feet high, built by Trajan. There is also an old Moorish palace. Merida was built in 23 B. C., and flourished in great splendor as the capital of Lusitania. In 713 it was

taken by the Moors, who lost it to the Spaniards in 1229.

Meriden, a city in New Haven county, Conn.; on the New York, New Haven & Hartford and other railroads; 18 miles S. of Hartford; is widely noted for its manufactures of cutlery, bronze art goods, printing presses, clocks, organs, gas fixtures, firearms, and bronze, electro-plated, granite, iron, and pearl agate wares. Pop. (1930) 38,481.

Meridian, city and capital of Lauderdale county, Miss.; on the Queen & Crescent and other railroads; 5 miles E. of Jackson; is the center of a rich lumber region, with large cotton and grain interests; has important manufactures and large general trade; and contains the East Mississippi Female College, Lincoln School (Cong.), Meridian Academy (M. E.), and Meridian Male College. Pop. (1930) 31,954.

Meridian Conference, an international convention, held in 1884, at Washington, D. C., by invitation of the United States, for the purpose of adopting a common prime meridian from which to reckon longitudes, and that of Greenwich was chosen.

Merimee, Prosper, a French author; born in Paris, France, Sept. 28, 1803. Having received an excellent education at the College Henri IV. he devoted himself to the study of the law, and passed advocate; but he attached himself to literature in his 22d year under the nom de plume of Joseph LeStrange, and published what was professedly a translation from the Spanish, though really original. Other works followed in rapid succession. After the revolution of July, 1830, he was appointed secretary to the ministers of commerce and marine. Died in Cannes, France, Sept. 23, 1870.

Merino, a Spanish breed of the domestic sheep. It is extremely important commercially, on account of the excellence of its wool, which is close-set, soft, spirally twisted and short. The animal is small, flat-sided, and long-legged. The males are horned. The face, ears, and legs are dark, the forehead woolly, and the skin of the throat lax.

A fine woolen material is made from the wool of the merino sheep. It is a

lady's dress goods, all wool and twilled on both sides.

Meriwether, Mrs. Elizabeth (Avery), an American novelist; born in Bolivar, Tenn., in 1832.

Meriwether, Lee, an American writer; son of Elizabeth A. Meriwether; born in Columbus, Miss., Dec. 25, 1862.

Merlin, a legendary Welsh prophet and magician, who is said to have lived in the 5th century. He is said to have been the offspring of a demon and a Welsh princess, and became adviser to the English kings Vortigern, Ambrosius, Utherpendragon, and Arthur.

Mermaids and Mermen, have their origin in the folk lore of the Northern European countries, varying somewhat with the particular locality. For the most part they were supposed to be semi-human beings—the part above the waist being human, and the lower part fish. Legends say they would dispense with their fish tails and live as humans on land until offended by their sweethearts, after which they would take on the mermaid form and live in the sea.

The mermaids were usually very beautiful with heavy long hair. They were credited with the power of prophecy and the ability to impart supernatural powers to human beings. They were supposed to have some person under their protection and would exact terrible penalties for wrong done their wards. They have been a favorite subject for poets and painters since the Middle Ages. Sailors feared being enticed to destruction by their beauty.

Merovingians, or Merwings, the 1st dynasty of Frankish kings in Gaul. The name is derived from Merwig or Merovech, king of the Western or Salian Franks from 448 to 457. His grandson Clovis established the fortunes of the dynasty which gave way to the Carolingians in 752.

Merriam, George Spring, an American author; born in Massachusetts in 1843. He lived at Springfield, Mass., and wrote "A Living Faith." He was also a frequent contributor to periodicals. He died Jan. 22, 1914.

Merriam, Henry Clay, an American military officer; born in Maine, Nov. 13, 1837; was graduated at Colby University; entered the army in 1862

as captain of the 20th Maine Volunteers; distinguished himself at the battle of Antietam, Sept. 17, 1862; and organized colored troops in the following year. On April 9, 1865, he commanded the attack on Fort Blakeley, Ala.; which was the last battle of the Civil War, and for bravery in that action received a Congressional medal of honor; was promoted colonel, U. S. A., in July, 1885; and afterward served in numerous campaigns against the Indians. As Commander of the Departments of the Columbia and California during the Spanish-American War he organized, equipped, and forwarded troops to the Philippine Islands; was promoted Brigadier-General, U. S. A., June 30, 1897, and Major-General of volunteers May 2, 1898. In 1899 he was sent to the Philippines in command of the army of occupation, and in January, 1900, was placed in command of the Department of Colorado. D. Nov. 18, 1912.

Merriam, William Rush, an American statistician; born in Wadham's Mills, N. Y., in July, 1849; settled in St. Paul, Minn., in 1861; was graduated at Racine College in 1871; became a clerk in the First National bank of St. Paul; and was elected president of the Merchants' National bank of St. Paul in 1882. He entered the State Legislature in the last year; was reelected in 1886; and was governor of Minnesota in 1889-1892. He was Director of the United States Census in 1899-1903.

Merrill, Selah, an American archaeologist; born in Canton Centre, Conn., May 2, 1837. He was chaplain in the Civil War; after that was engaged in explorations in Palestine. He was consul at Jerusalem. Among his works are: "East of the Jordan"; "Galilee in the Time of Christ"; "The Site of Calvary"; etc.

Merrimac, The, a 40-gun screw frigate of the United States navy. On April 19, 1861, the Norfolk navyyard was abandoned by the National government and all the ships, including the Merrimac, were scuttled and sunk. The Confederates raised the hull, and converted it into a most formidable instrument of naval warfare. It was dismantled to the water's edge and a 10-foot high roof of heavy timbers and three-inch iron was built

over its deck and two feet below the water line. The prow was of cast iron and her armament consisted of 10 guns. The monitor was named "Virginia" and commanded by Commodore Franklin Buchanan. On March 8, 1862, she destroyed the "Congress," a sailing ship of 30 guns, at Newport News. On March 9 she attacked the "Minnesota" and was met by the "Monitor" which had arrived the night before. The battle lasted from 8 A. M. till noon, when the "Merrimac" withdrew from the contest, and failed to return to renew it.

Merrimac, The, a collier in the United States navy, which was originally a Norwegian "tramp" steamer, the "Solveig," built at Newcastle, England, in 1894. In the summer of 1897 she ran aground in the West Indies and was abandoned by the crew. She was raised and then purchased by a New York firm and put in service as a freighter. At the beginning of the Spanish-American War the "Merrimac" was purchased by the United States government and sent to Cuba with Admiral Sampson's fleet as a collier. The sinking of this vessel in Santiago Bay, for the purpose of obstructing its entrance and preventing the escape of the Spanish fleet within, was one of the most thrilling incidents of the war. (See Hobson.)

Merritt, Stephen, preacher-philanthropist; born in New York, March 6, 1833. Educated in public schools and at Amenia, N. Y., Seminary. After learning sail-making in the Brooklyn Navy Yard, he engaged with his father in the undertaking business, and was the funeral director at the obsequies of General Grant and other noted persons. He had a national reputation as a friend of the poor, the homeless, and the friendless. His timely aid proved the turning-point in the life of John G. Woolley. Ordained a minister of the M. E. Church in 1858.

Merritt, Wesley, an American military officer; born in New York city, June 16, 1836; was graduated at the United States Military Academy in 1860; assigned to the dragoons and served in the Federal army with gallantry and distinction throughout the Civil War. After the war General Merritt was occupied chiefly with frontier duty till 1882, when he was

appointed superintendent of the United States Military Academy. In 1898 he commanded the land forces of the United States in the Philippine campaign, which culminated in the fall of Manila, Aug. 13. In 1899 he was placed in command of Department of the East, at Governor's Island, N. Y., and in 1900 was retired. D. Dec. 3, 1910.

Merv, Central Asia, an oasis north of Afghanistan, the principal seat of the Teke-Turcomans, whose predatory incursions were checked by the Khan of Khiva in 1815; and who in 1881 submitted to the Russians.

Merville, a town of N. France, on the left bank of the Lys, 6 miles S. E. of Hazelbrouck, 17 miles W. of Lille; has considerable trade in cattle and grain, and manufactures of linen, velvet, starch, oil, beer, leather, brick, tile, and salt. It sprang from a monastery built by St. Maurand in 674, and was annexed to France in 1667. Pop. about 4,000.

Meshhed, **Meshed**, or **Mashhad** (the "place of martyrdom"), a city of Persia, capital of Khorasan, and the center of important trade routes to Merv, Bokhara, and elsewhere, situated on a tributary of the Hari-Rud, 200 miles N. W. of Herat, and 460 E. by N. of Teheran. As seen from a distance Meshhed appears a beautiful city, above its broad sweep of walls shining the gilded dome and minarets of the mosque that covers the tomb of Imam Riza, one of the most splendid structures of the East. Imam Riza, a follower of Ali, was the 8th imam of the Shiite sect, to which body of Moslems Meshhed is a sacred city. They venerate it as greatly as the Sunnite Moslems do the city of Mecca, and visit it annually to the number of 100,000 pilgrims. The climate is severe in winter, owing to the elevation, 3,055 feet. In summer the temperature ranges from 76° to 90° F.

Mesmer, **Friedrich Anton**, or **Franz**, a German physician; born near Constance, Baden, May 23, 1734. He studied medicine at Vienna, and took his doctor's degree in 1766. About 1772 he began to investigate the curative powers of the magnet, and was led to adopt the opinion that there ex-

ists a power, similar to magnetism, which exercises an extraordinary influence on the human body. This he called animal magnetism, and published an account of his discovery, and of its medicinal value, in 1775. In 1778 he went to Paris, where he created a great sensation. His system obtained the support of members of the medical profession, as well as of others; but he refused an offer of an annual pension of about \$4,000 to reveal his secret; and this induced the government in 1785 to appoint a commission, whose report was unfavorable to him. He fell into disrepute, and, after a visit to England, retired to Switzerland, where he spent the rest of his life in complete obscurity. He died in Meersburg, Baden, March 5, 1815.

Mesmerism, the system popularized by Mesmer, and by him called animal magnetism. One of his disciples showed that sleep might be induced by gentle manipulation alone, thus removing mesmerism from the sphere of mystery to one where it might be subjected to scientific investigation.

Mesopotamia, in ancient geography, a country of Western Asia, situate between the Tigris and the Euphrates. It was called, in the Old Testament, *Aram Naharaim*, or "Syria between the two waters," and *Padan Aram*, "Syria of the Plain," and is first mentioned in the Scriptures as the country where Nahor and his family settled. It was long part of the seat of the very ancient Babylonian dominion, and subsequently of the Mede, Persian, and Macedonian. The Romans obtained possession of Mesopotamia in 165. Jovian surrendered it to the Persians in 363. The Carthaginians overran it in 902, and the Turks conquered it, 1514-16. In the World War strategic places in the country suffered severely. After some unfortunate moves, the British advanced up the Tigris in February, 1917, recovered Kut and Ctesiphon, and on March 10 occupied Bagdad, which the Germans had mapped as the terminus of a railway they had begun building from Berlin.

Messalina, the name of two Roman empresses. Messalina Valeria, was had for her fifth husband the Emperor Nero, who had murdered her fourth husband, Atticus Vistimus. After the

Messiah

death of the emperor, in the year 68, she devoted herself to literary pursuits. Messalina Valeria, daughter of Valerius Messolinus Barbatus, who became the wife of Claudius, and shared with him the imperial throne. Her licentious conduct is unparalleled in history, for she not only made her husband's palace the scene of her debaucheries, but often quitted it at night, and acted as a common prostitute. When summoned by the enraged emperor, after some fresh extravagance, in the year 48, she attempted to kill herself, but lacked courage, and her enemy Narcissus, who dreaded the result of the interview, caused her to be dispatched by a soldier.

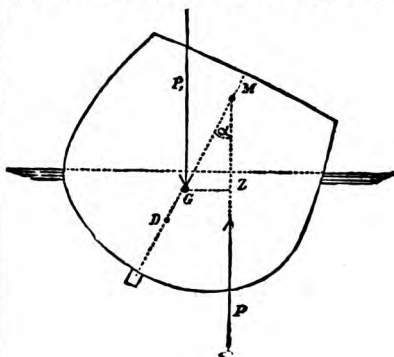
Messiah, or **Messias**, in Jewish history and faith, the Anointed One; a certain Personage or Being regarding whom Daniel prophesied. He was called "the Prince," was apparently identified with the "most Holy" (One), was to appear at the end of "seven weeks and three score and two weeks" from the issue of the decree to rebuild Jerusalem, was in 62 weeks to be "cut off, but not for Himself," after which Jerusalem was to be destroyed by foreign invaders. In Psalm ii: 2, the Lord and His anointed might be rendered the Lord and His Messiah. Presumably the Messiah spoken of by Daniel would discharge priestly, kingly, or prophetic functions, or two out of the three, or all of the three. The name "the Prince" would suggest that kingly functions would be specially prominent. During the later and more calamitous period of the old Hebrew monarchy, there were increasingly ardent desires for the coming of the Messiah, who was regarded chiefly as deliverer from foreign oppressors. In Jewish belief that advent is still to be expected.

In Christian history and faith, the Anointed One is in Greek Christos, from *chrío* to anoint. So thoroughly are the words identified, that the Hebrew *mashiachh*, which occurs 39 times in the Old Testament, is in every case rendered in the Septuagint *christos*. When Jesus of Nazareth consented to accept the appellation "the Christ," or simply "Christ," as His official designation, He claimed to be the Messiah of Daniel's prophecy. All Christendom has acknowledged the claim.

Metallurgy

Mestizos, people of mixed origin in countries where Spanish Europeans have settled and intermingled with the natives, as in the Philippines.

Metacenter, the point of intersection of the vertical line passing through the center of gravity of a floating body in equilibrio, and a vertical line through the center of gravity



METACENTER.

of the fluid displaced, if the body be turned through a small angle, so that the axis takes a position inclined to the vertical. If the metacenter is above the center of gravity, the position of the body is stable; if below it, it is unstable.

Metallurgy. The art of smelting ores was probably discovered by observing the effect of a big fire on some rich ore that happened to be in the way. Gold is always found native, and silver and copper sometimes. The ancient Egyptians worked in gold, silver, and bronze with a degree of skill that could only have been reached by gradual steps extending over thousands of years. In India and some other parts of Asia malleable iron is made directly from rich ores in furnaces, by a process in use from time immemorial; and by a similar process savages in some parts of Africa also smelt iron. It is supposed by some archæologists that most parts of Africa passed directly from the stone to the iron age, but there seems to be

evidence that in some places on that continent the making of various articles of the copper of the country has been long practised by aboriginal tribes.

Modern metallurgy, or the art of extracting metals from their ores, has attained great perfection, and engages the attention of the ablest scientists of the age.

Metals. A metal, from the chemical point of view, is an element which can replace hydrogen in an acid and thus form a salt. Hydrogen itself is chemically considered to be a metal. Those elements which are non-metallic in this sense are called metalloids.

Various classifications of the metals have been suggested by different chemists. The following is probably one of the most convenient:

(I.) The Light Metals, subdivided into—

(1) The metals of the alkalis—viz., potassium, sodium, cesium, rubidium, lithium.

(2) The metals of the alkaline earths—viz., barium, strontium, calcium, magnesium.

(3) The metals of the true earths—viz., aluminium, glucinum, zirconium, yttrium, erbium, terbium, thorium, cerium, lanthanum, didymium.

(II.) The Heavy Metals, subdivided into—

(1) Metals whose oxides form powerful bases—viz., iron, manganese, chromium, nickel, cobalt, zinc, cadmium, lead, bismuth, copper, uranium, thallium.

(2) Metals whose oxides form weak bases or acids—viz., arsenic, antimony, titanium, tantalum, niobium (or columbium), tungsten, molybdenum, tin, vanadium, osmium.

(3) Metals whose oxides are reduced by heat—noble metals—viz., mercury, silver, gold, platinum, palladium, iridium, ruthenium, rhodium, osmium. (Several of the rare metals are here omitted.)

Another classification is that by which the metals are arranged in six groups, each group being named after a metal which possesses the common characters in a well-marked degree: viz., (1) the sodium group, (2) the calcium, (3) the iron, (4) the copper, (5) the platinum, and (6) the antimony groups.

Metamorphic Rocks, or Metamorphic Strata, in geology, the term—first proposed by Lyell in 1833, and since universally adopted—for stratified crystalline rocks—that is, rocks which have been presumably laid down originally by the action of water, and then transformed by fire, chemical agency, pressure, or all combined.

Metamorphosis, a change or transformation in the form, shape, structure, or character of anything.

Metaphor, a figure of speech by which a word is transferred from an object to which it properly belongs to another, in such a manner that a comparison is implied though not formally expressed; a simile without any word implying comparison; a short simile. Thus, "That man is a fox," is a metaphor; but "That man is like a fox," is a simile. "He bridles his temper," is a metaphor, expressing that a man restrains or controls his temper, as a bridle serves to restrain or control a horse.

Metaphysics, a term popularly employed to denote a science dealing with subjects incapable of being dealt with by physical research. Broadly viewed, the Aristotelian metaphysic was the science of the first principles of being, the science of the first principles of knowing, and the science of God, as the beginning and ending of all things; and these three were the foundation of scholastic philosophy.

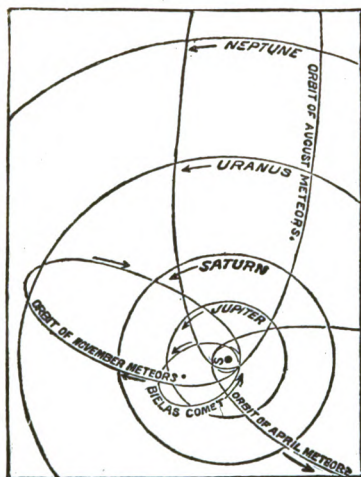
Metatarsus, the part of the foot popularly known as the "instep."

Metcalf, Victor Howard, statesman; b. Utica, N. Y., Oct. 10, 1853. He graduated from Yale Law School, 1876, practiced in Oakland, Calif., was thrice elected to Congress; 1904-06 was Sec. of Dept. of Commerce and Labor, and 1906-08, Sec. of Navy.

Meteor, a luminous body appearing transiently in the sky, and exploding or descending to the earth; a shooting star. On clear nights occasional meteors may be seen, but the most brilliant displays occur usually in November. A display predicted by Prof. H. A. Newton of Yale, which came on Nov. 13, 1866, was splendid. In November, 1867 and 1868, considerable star showers were seen in the United States. Similar displays have been seen in November of

1202, 1366, 1533, 1602, 1698, 1799, 1832, and 1833. That of Nov. 12, 1799, was one of the finest. It was seen by Humboldt and Bonpland at Cumana, in South America. Professor Adams places the more magnificent displays at intervals of $33\frac{1}{4}$ years apart.

It is believed that a ring of meteors revolves round the sun, portions of it very thickly studded with them, while at others they are only sparsely scattered. Every year the earth's orbit cuts through the ring, though only at intervals of about 33 years through the part where they are most crowded.



METEOR.

The meteors themselves are of iron, which, striking the atmosphere of the approaching earth with planetary velocity, ignite and go to dust.

On Dec. 21, 1876, a detonating meteor exploded almost directly over the city of Bloomington, Ill., at a height of about 75 miles. Its detonating was so tremendous as to shake the city like an earthquake. Fragments of the meteor formed a cluster of fire-balls 5 miles wide and 40 miles long. The main portion of the meteor, with a rumbling roar like thunder, passed on E., and out of our atmosphere, over

the Atlantic Ocean. On Feb. 10, 1896, a remarkable meteor exploded over the city of Madrid. Though it appeared during the daylight, its brilliancy was such as to dazzle the eyesight of persons in Madrid and to make it visible as far away as Gibraltar. It exploded at a height of about 15 miles, and so tremendous was the detonation that it was heard and its tremors felt over a radius exceeding 50 miles.

Meteorology, that branch of science which observes, registers, classifies, and compares the various and varying phenomena of our atmosphere. It remarks, at the same time, the connection of those phenomena with heavenly bodies, and with the solid and liquid materials of the earth, in reference to their reciprocal and combined influence in determining the character of different climates, and with the view of learning the meteoric history of every region of our globe, of ultimately investigating the laws of atmospheric change and the plan of meteoric action; the theory, in fact, of meteorological phenomena, on which depends essentially the fitness of the various portions of the earth's surface for the production of different vegetable and other substances, and for the support of animal life.

Birds and beasts are all more or less sensitive to coming changes in the weather, and by observation of their movements, sure warning of changes in the weather may be obtained.

It was not till the discovery of the barometer, in 1643, that the first great step was made toward a knowledge of the nature of our atmosphere. We were then, by its help, enabled to ascertain the weight and pressure of the great aerial ocean which surrounds us, and to learn when and where it was in a state of calm or storm. The invention of the thermometer, shortly afterward, gave the means of determining its temperature. Since the discovery of the barometer, the science of weather forecasting has made much progress in its details.

Methodists, a name first applied by a student of Christ Church to John and Charles Wesley, and some other young men at Oxford, who were in the habit of meeting together in 1729 for the purpose of strengthening each other's pious resolutions and engaging

in religious conversation. They aimed particularly at a more rigid compliance with the precepts of the New Testament than usual in the Established Church and devoted themselves to works of love, such as instructing poor children, visiting the prisons, etc. On account of their methodical observance of the rules of religion and the regularity of their lives they were nicknamed the "Holy Club," and afterward, "The Methodists," a name which has adhered to them, and which they have adopted, though Wesley himself wished that the name might never be mentioned, but be buried in oblivion. Of the members of this small society the principal were John Wesley, founder, his brother Charles, and George Whitefield, who joined it in 1735. In 1735 Wesley went out to Georgia to engage in the conversion of the heathen. There he remained two years, and becoming acquainted with some of the Moravian Brothers, was much struck with their severe simplicity and pious devotion. He then visited Herrnhut, and after his return to England collected a small society in London, which held its conferences in a private house without any disposition at this time to secede from the Church. This Wesley himself calls the first Methodist society, and in it the germ and first beginnings of Methodism are to be found.

The concourse of auditors being too great to be accommodated in any church, they began to preach in the open air, and to organize a separate church on the presumed apostolical model. The peculiar character of this field preaching, which was distinguished from the philosophical indifference of that of the Established clergy by its religious enthusiasm, and popular style, and which dwelt on the fall and depravity of man, on the atonement, on the restoration through the merits of a crucified Saviour, on repentance, and on regeneration, with all the eloquence which a sincere zeal could inspire, had a great effect in increasing the numbers of the society. Whitefield, the boldest and most zealous apostle of Methodism, often collected hearers to the number of 12,000 in the fields, churchyards, and even at fairs, and by the thunders of his eloquence and the terrors of his denunciations, produced such an effect on his audience that

many of them were turned to faith and holiness on the spot. These sudden conversions were considered as the outpourings of grace and came to be considered by the Methodists as desirable results of their preaching. They soon gave up the practice of field preaching and built houses of worship, partly to protect themselves from exposure to the weather, and partly to avoid the outrages which they experienced from the rabble.

Though they suffered much from the violence of the populace, yet, as the government made no opposition, they now proceeded to the regular establishment of their church constitution. Wesley feeling that a more definite and extensive organization than he had first given them was now imperatively demanded. The first conference was held in 1744. It was composed of six clergymen, who proceeded to the consideration of the three topics: What to teach; How to teach; and What to do. The first two days were occupied with the discussion of several doctrines, evangelical and Arminian, which were defined with precision. On the three following days they discussed the relations of the Methodist societies to the Established Church, and secession from it was discountanced. In a second conference held five years later Methodism took an organic and definite form, as Wesley's opinions regarding "church order" had undergone a great and material change. An annual conference was now instituted and class meetings and love feasts sanctioned. Methodism had henceforth its ministers, lay preachers, leaders, trustees, and stewards. The empire was divided into circuits for ministerial labor, for which there was an available ministerial force of about 70 men. From this date till 1791, when Wesley died, Methodism gradually diverged from the Church of England, and became entirely independent of it. It is now a distinct religious body, governed by an annual conference, having at its head a president and secretary, whose term of office lasts but for a year. In each district the ministers hold half-yearly meetings, the several chairmen being appointed by the conference. There are also quarterly circuit meetings of ministers and lay officers. The supreme legislative and judicial power is vested in the conference, to which

the half-yearly and quarterly district and circuit meetings are subordinated. The number of members at Wesley's death was 76,968; but the denomination has increased with such marvelous rapidity that in 1891 there were said to be in different parts of the world 17,000,000 adherents.

The society of the Wesleyan Methodists in the United States is known as the Methodist Episcopal Church. Its members of the Wesleyan body first established themselves in New York in 1766. In 1784, after the Revolutionary War, the necessity of the formation of an independent society having been recognized, Wesley set apart and ordained a bishop for the infant church, who presented his credentials at the conference held at Baltimore Dec. 25 of the same year. Wesley granted to the bishop, his coadjutor, and the other preachers, permission to organize a separate and independent church. In 1830 those who were dissatisfied with the episcopal form of church government seceded and formed a new organization called the Methodist Protestant Church. A dispute on the slave question caused a second secession in 1843, named the Wesleyan Methodist Connection of America, followed next year by a much larger secession on the same question. This took the name of the Methodist Episcopal Church, South.

According to the latest official figures (1928) there are 31 branches of this church in the world, with 105,596 churches 79,372 Sunday Schools, 11,869,388 church members and probationists, 10,086,907 Sunday School scholars, 59,824 ministers, 93,081 lay preachers. The total benevolences for the year were \$12,496,076—and the Methodists own 29,074 churches (buildings) at a value of \$417,890,136. They own and support 79 hospitals, 45 homes for the aged, 46 childrens homes, 23 homes for business girls, 45 colleges and universities, and 44 professional schools.

Methuen, a town in Essex County, Mass., famous for its bell foundries and organ factories. Pop. 1920, 15,189. Other manufactures; cotton and woolen mills, hat, yarn and basket factories.

Metlahkatla, or Metlahkatlah, name of the oldest and most successful mission among the Indians of British

Columbia, founded about 1857, by William Duncan, an English missionary who developed a model community from a tribe of the lowest cannibals. In 1887, having by petition to the United States government received the grant in perpetuity of Annette Island, Alaska, the community removed to that place, where it became very prosperous under the name of New Metlahkatla.

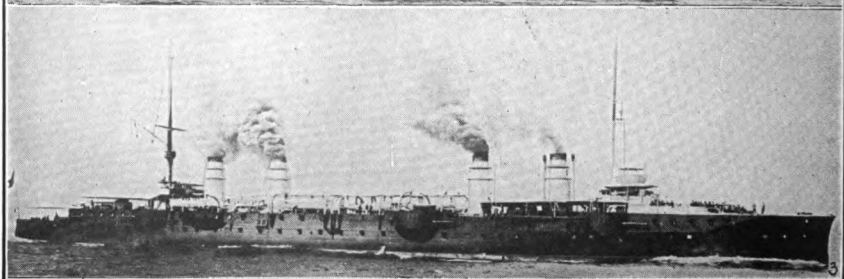
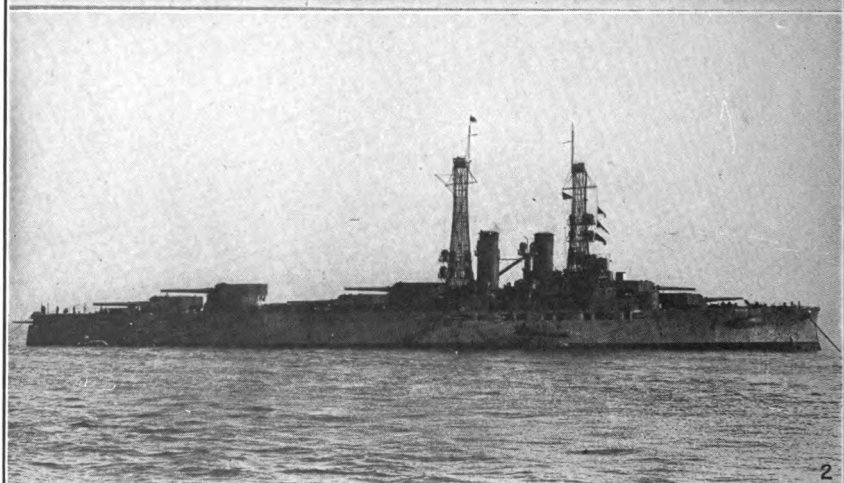
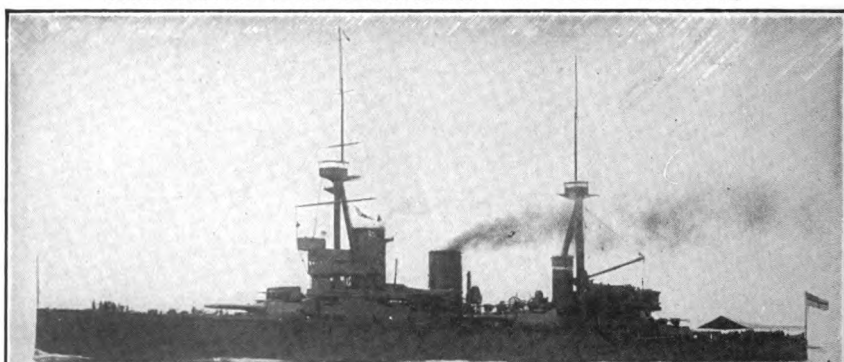
Metonic Cycle, the cycle of the moon, a period of 19 solar years, after which the new and full moon fall on the same days of the year as they did 19 years before. This cycle was the discovery of Meton, a celebrated Athenian philosopher, who flourished about 432 B. C.

Metric System, the system adopted by the French convention in 1795, in which all measures of length, area, capacity, and weight are based on the length of a quadrant of the meridian measured between the equator and the pole. See DECIMAL SYSTEM.

Metternich, Clement, Prince von, an Austrian statesman; born in Coblenz, Prussia, May 15, 1773. Educated at Strassburg, he early acquired information regarding public affairs by travels in Germany, Holland, and Great Britain; and having soon afterward entered the diplomatic service, acted as secretary at the Congress of Rastadt, in 1799, where his abilities at once attracted notice, and led to his being appointed secretary of the Austrian embassy at St. Petersburg, in 1802, and Austrian ambassador, in succession, at the courts of Dresden, in 1803, and Berlin in 1805. After the peace of Presburg, he was appointed ambassador to Paris, in 1806. In 1809 he was appointed chancellor of state; and for nearly 40 years from that period, he exercised almost without control, the highest authority in the Austrian empire. In 1813, after the great French disasters in Russia, war, at the instigation of Metternich, was formally declared by Austria against France. In the autumn of that year the Grand Alliance was signed at Teplitz, and on the field of Leipzig Metternich was raised to the dignity of a prince of the empire. In the subsequent treaties and conferences the newly created prince took a very prominent part, and he signed the treaty



MAMMOTH BATTLESHIPS OF THE ALLIES



1—Large type British battleship.

2—United States superdreadnought.

3—One of the big French dreadnoughts.

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of Paris on behalf of Austria. In 1815 he presided over the Congress of Vienna. In 1848 he was compelled to flee from Vienna; but he returned in 1851, and though he never again assumed office, his counsels are said to have swayed the emperor down to the moment of his death. He died in Vienna, June 11, 1859.

Metz, the strongest fortress of the German imperial territory of Alsace-Lorraine, and the capital of the district of Lorraine; before 1871 the main bulwark of France in her N. E. frontier, and capital of the department of Moselle. In August, 1870, Bazaine was compelled to retire into Metz with his army; and after an investment of 70 days, during which no attempt was made to take the city by force, Europe was startled to hear of the capitulation of Metz, by which 180,000 men and immense military stores fell into German hands (Oct. 27, 1870). By the treaty of Frankfurt Metz was annexed to Germany as part of Lorraine. Lorraine, with its capital, Metz, restored to France by Peace Treaty of 1919. Pop. (Est.) 71,000.

Mexican War, a war between the United States and Mexico, growing out of the annexation of Texas in 1845. Texas claimed the Rio Grande as her N. W. frontier, while Mexico insisted on the Nueces river. The United States supported the position taken by Texas, and war between the two countries was declared in 1846. During that year Gen. Zachary Taylor won the battles of Palo Alto and Resaca de la Palma and forced Monterey to surrender. On May 23, 1847, he gained the victory of Buena Vista. In June of the same year General Scott took Vera Cruz and marched on to the City of Mexico. On the way he fought the battles of Cerro Gordo, Contreras, Churubusco, Molino del Rey, and Chapultepec. His capture of the City of Mexico, Sept. 14, 1847, virtually ended the war, and the treaty of Guadalupe-Hidalgo was signed Feb. 12, 1848.

Mexico, a republic of North America: area, 785,881 square miles; pop. (1926) 14,234,799. For the most part Mexico consists of an immense tableland. The prevailing formations are metamorphic, but partly overlaid by

igneous rocks of every geologic epoch, rich in ores. In the highest mountain ranges granites and other rocks prevail, with deposits of sulphur and pumice, and other recent volcanic discharges. In the N. chalk and sandstones become prevalent. The most important range is the Sierra Madre (over 10,000 feet); parallel with this run the sierras of the E. coast and of Lower California. The surface of the country is also much broken up by short cross-ridges and detached peaks, the principal being the Cordillera de Anahuac culminating in Nevado de Toluca (19,454 feet) and Popocatepetl (17,523). The Pico de Orizaba, E. of Popocatepetl, is 18,205 feet high. On the Atlantic side the plateau descends abruptly to the narrow strip (about 60 miles) of gently sloping coast land; toward the Pacific, where the coast lands vary in width from 40 to 70 miles, the descent is more gradual. Of the present lakes the only one of great size is Chapala, which is traversed by the Rio Grande de Santiago; but considerable bodies of water collect in depressions in the uplands during the heavy rains. The rivers of Mexico are of little use for navigation. S. of the Rio Grande del Norte, on the Texan frontier, they are mostly impetuous mountain torrents, or flow through rocky gorges, sometimes 1,000 feet deep. Only in the narrow strips between the plateau and the coast are they available as channels of trade.

In the plateau region the climate is almost that of perpetual spring, and the atmosphere is remarkably free from moisture, but so scarce is rain that plateau agriculture is largely dependent on irrigation. An immense desert tract extends between Chihuahua and Zacatecas. On the coast lands water is abundant, but the climate is so unhealthful that few white men can labor there.

The vegetation of Mexico shows great varieties. In the lowlands dye-woods and valuable timbers, medicinal plants, india-rubber, palms, oranges, bananas, many varieties of cactus, etc., abound. The plateau besides yielding a number of the foregoing also produces mahogany, ebony, rosewood, oak, and pine; copal, rubber, and numerous gums, cassia, jalap, ipecacuanha, and other medicinal plants, cartamo, logwood, and various other dyes. The

principal agricultural products are rice, maize, wheat, sugar, panocha, molasses, brandies, henequen, cotton, coffee, tobacco, logwood and rum.

Among the minerals in which the country abounds, silver has been produced since the conquest. Gold and copper are mined, the latter being in a pure state in Chiapas and Guana-junto. Iron, lead, sulphur, zinc, quick-silver, platinum, cinnabar, asphalt, petroleum, salt, marble alabaster, gypsum and rock-salt are produced, twenty-four of the thirty-one states being ore-bearing. Silver output, 1926, was valued at \$112,961,418; gold, \$31,034,322.

Approximately 312 cotton factories, employing more than 48,241 operatives; 412 tobacco factories, and 1772 distilleries were in production, June 30, 1918. The 1923 petroleum output, from 5 companies, was 182,278,457 bbl., affording the greatest single wealth of the country. New laws, adopted in 1917, recognizing private ownership of oil wells, stimulated production. Trade balance favors Mexico, with exports in 1926 being \$345,884,850 as against \$190,634,020 in imports. Railroad development shows 17,298 miles of trackage.

Education is non-sectarian, under state and national support. Primary education, compulsory in most states, is encouraged; colleges and seminaries afford higher education.

Although the prevailing faith is Roman Catholic, there is no state religion since Sept. 25, 1873, when government action decreed against recognition. Monastic orders are prohibited. Religious dissensions have been frequent within the republic, culminating in 1928 (Feb.) when open rebellion by Catholics in various states brought forth government action by the War department. Arrests and deportations of Catholic clergy followed; charges and countercharges between Catholic authorities and the Government were frequent; President Calles attempted to control the situation. Finally, the assassination of President-Elect Obregon by Jose de Leon Toral, a young art student, July 18, called forth from President Calles a plea for peace. Responsibility for the assassination was placed by Calles at the door of the Catholics; by the

mouthpiece of the Pope, at Calles door. Religion remains a smouldering unsettleable in the country. At present (June, 1929) things are quiet, but students of the situation recognize that matters are not settled, religiously.

Structurally a Republic, the constitution of Mexico, adopted in 1857, has been subjected to ten revisions by amendment. States have complete autonomy in internal affairs. The President, elected for a six year term, may succeed himself perpetually, although custom discourages it. The Congress structure is similar to that of the U. S. with a Chamber of Deputies and a Senate. Term of office is two years. The Supreme Court, with powers similar to those of the U. S. Supreme Court, is composed of judges elected every six years. Congress meets twice a year, with a permanent committee of both houses set by during recesses.

The history of ancient Mexico exhibits two distinct and widely differing periods—that of the Toltecs and that of the Aztecs. The 8th century is the traditional date when the Toltecs are related to have come from the N. Their capital was established at Tula, N. of the Mexican valley. Their laws and usages stamp them as a people of mild and peaceful instincts, industrious, active and enterprising. It is related that a severe famine and pestilence all but destroyed the Toltec people in the 11th century, and near the end of the next century, a fresh migration brought, among other kindred nations, the Aztecs into the land. Within two centuries and a half this last people had become predominant. But their rule was, in a great degree, a reversion to savagery, and the land was one of poverty, famine, jealousies and conflicts.

The Aztecs founded, about 1325, the city of Tenochtitlan, or Mexico; a hundred years later they had extended their sway beyond their plateau valley, and on the arrival of the Spaniards, their empire was found to stretch from ocean to ocean. Their government was an elective empire, the deceased prince being usually succeeded by a brother or nephew, who must be a tried warrior; but sometimes the successor was chosen from

among the powerful nobles. The monarch wielded despotic power, save in the case of his great feudal vassals; these exercised a very similar authority over the peasant class, below whom, again, were the slaves. The Mexicans apparently believed in one supreme invisible creator of all things, the ruler of the universe; but the popular faith was polytheistic. At the head of the Aztec pantheon was the frightful Huitzilopochtli, the Mexican Mars. The victims were borne to the summit of the great pyramidal temples, where the priests, in sight of assembled crowds, bound them to the sacrificial stone, and, slashing open the breast, tore from it the bleeding heart and held it up before the image of the god.

Cortez landed at Vera Cruz in 1519. Before his energy, and the superior civilization of his followers, the power of the native empire crumbled away. In 1540 Mexico was united with other American territories—at one time all the country from Panama to Vancouver's Island—under the name of New Spain, and governed by viceroys, appointed by the mother country. The intolerant spirit of the Catholic clergy led to the suppression of almost every trace of the ancient Aztec nationality and civilization, while the commercial system crippled the resources of the colony; for all foreign trade with any country other than Spain was prohibited on pain of death. Mexico ranked first among all the Spanish colonies in regard to population, material riches, and natural products. In 1810 the discontent, which had been gaining ground against the viceregal power during the war of the mother country with Napoleon, broke into open rebellion, and a guerilla warfare was kept up until, in 1821, the capital was surrendered by O'Donoju, the last of the viceroys. In the following year General Iturbide, who in 1821 had issued the plan de Iguala, providing for the independence of Mexico under a prince of the reigning houses, had himself proclaimed emperor; but the guerilla leader Guerrero, his former ally, and Gen. Santa Ana raised the republican standard, and in 1823 he was banished to Italy with a pension. Returning the following year he was taken and shot, and the federal republic of Mexico was finally established.

In 1836 Texas secured its independence, which Mexico was compelled to recognize in 1845. In that year Texas was incorporated with the United States; but its W. boundary was not settled, and war ensued between Mexico and the United States. From the fall of Santa Ana in 1855, down to 1867, great confusion prevailed.

In 1853 Benito Juarez became president, but his claims were contested by General Miramon, the head of the reactionary or clerical party, and the country was plunged in civil war. In April, 1862, Emperor Napoleon formally declared war against Mexico; but the French never met with the welcome they expected from the people, and finally had to withdraw, without permanent success, in 1867, largely because of the attitude of the United States. Maximilian, who had become Emperor of Mexico under French support, was executed in the same year, and Juarez returned to power. On the death of Juarez in 1872, the chief justice, Lerdo de Tejada, assumed the presidency, in which, after a revolution, he was succeeded in 1876 by Gen. Porfirio Diaz.

On June 26, 1910, President Diaz was declared elected for the eighth consecutive term, and on Nov. 18 following, a revolt, that had long been forming, broke out under the leadership of Francisco I. Madero, Jr., who proclaimed himself Provisional President, and was inaugurated at Coahuila on Dec. 1. From this time events moved with startling rapidity and results. The Madero party organized a considerable army, and by April, 1911, nearly one-half of the entire country was in the area of disturbance. On May 25 President Diaz resigned; on Oct. 1, Madero was declared elected Constitutional President; on Feb. 19, 1913, he was deposed in a revolt headed by Gen. Victoriana Huerta; and on the 22d he and the Vice-President, Jose Pino Suarez, were assassinated in Mexico City. While these events were in progress the U. S. Government mobilized a military force along the Rio Grande border and a naval force off Guantanamo, Cuba. Gen. Plutarcho Elias Calles, Laborite and Socialist was elected President on July 6, 1924. Inaugurated Dec. 1, 1924. Was first Laborite to be elected.

On July 1, 1928, Gen. Alvaro Obregon was elected president for the second time, to take office Dec. 1 of that year. His assassination seventeen days later brought about uncertainty in the country, with the idea prevalent that Calles would succeed himself. Calles definitely declined. On the 25th of September Emilio Portes Gil, then Secretary of the Interior, was elected president at the hands of the Senate and House of Deputies. Term of office extends to December 5, 1929. For the first time in history, Mexico has a layman President, instead of a general. For a chronology of subsequent events affecting the United States, see **APPENDIX: Mexican Campaign.**

Mexico, a city and capital of the republic of Mexico, situated within the State of Mexico in the Federal District, about 7,400 feet above sea-level, near several lakes, and at about an equal distance from Vera Cruz on the Mexican Gulf, and Acapulco on the Pacific; is laid out with great regularity; principal public buildings: palace of government; college of mines, a noble building, but now somewhat dilapidated; mint; town house; university, etc.; numerous convents, hospitals, churches, theaters, etc. **Pop.** Est. (1926) 906,063.

Mexico, Gulf of, a basin of the Atlantic Ocean, closed in by the United States on the N., by Mexico on the W. and S., and its outlet on the E. narrowed by the jutting peninsulas of Yucatan and Florida, which approach within 500 miles of each other; length from S. W. to N. E. over 1,100 miles; area 716,200 square miles. The principal rivers it receives are the Mississippi and the Rio Grande del Norte.

Meyer, George von Lengerke, diplomat; b. Boston, June 24, 1858. He became a member 1892, and speaker 1894-96; of the Mass. legislature; ambassador to Italy 1900; to Russia 1905; Postmaster-Gen. 1907; Sec. of Navy 1909-13.

Meyerbeer, Giacomo, a German composer; born in Berlin, Prussia, Sept. 5, 1791. His genius showed itself so early that at six years of age he played at a concert, and at nine was one of the best pianists in Berlin. He

subsequently visited Italy, where he came under the influence of Rossini. The first work which made him a man of mark was the "Crusade in Egypt." It was produced at Venice in 1824, and at Paris two years later. Meyerbeer became the favorite composer of the Parisian public. Besides his operas, Meyerbeer wrote a "Stabat," a "Miserere," a "Te Deum," an oratorio, cantatas, and many songs. He died in Paris, May 1, 1864.

Mezieres, a French frontier town on a peninsula made by a bend in the Meuse river, which flows on both sides of it; opposite the city of Charleville; 11 miles N. W. of Sedan, where Napoleon III. surrendered to the Prussians in 1871. Its fortifications, built by Vauban, were dismantled in 1885-6. The town dates from the 9th century; was defended against the Imperialists by the Chevalier Bayard; held off the Germans for six weeks in 1815; and surrendered to them in 1871 after a long bombardment, in which the greater part of it was destroyed. **Pop.** about 8,000.

Micah, the name of various persons spelled Micah, Michah, or Micha, mentioned in the Old Testament. Specially: (1) A priest (Judges xvii, xviii) believed to have been a descendant of Moses, written Manasseh (xviii: 30). (2) The prophet called Micah the Morasthite, perhaps to distinguish him from Micaiah, the son of Imlah, who lived in the reign of Ahab.

In the Old Testament canon: The 6th in order of the "minor prophets." The titles states that "the word of the Lord came to Micah the Morasthite in the days of Jotham, Ahaz, and Hezekiah, kings of Judah." The visions were concerning Samaria and Jerusalem, the capital of the 10 tribes, it will be observed, standing before that of the two. Jeremiah attributes at least the prophecy in Micah iii: 12 to the reign of Hezekiah. The corruptions of the 10 tribes and of the two are denounced; and the prophet foretells the destruction of both Samaria and Jerusalem, the captivity in Babylon; the world-wide spiritual influence to be ultimately exercised by Jerusalem and Zion, and the rise of a ruler to be born in Bethlehem, "whose go-

Michaelis

ings forth have been from of old, from everlasting." The canonical authority of the book has never been doubted.

Michaelis, Dr. Georg, a German statesman; born in 1857; first entered the Department of Education; was admitted to the bar in 1891; on the resignation of Dr. von Bethmann-Hollweg, German Imperial Chancellor, July 14, 1917, he was appointed to that post, but held it only a few weeks.

Michaelmas, the feast of St. Michael the Archangel. It falls on Sept. 29, and is supposed to have been established toward the close of the 5th century.

Michaud, Joseph Francois, a French historian; born in Albens, Savoy, June 19, 1767. His great work is his "History of the Crusaders." He died in Passy, Sept. 30, 1839.

Michelangelo (Buonarotti), the greatest sculptor and painter known to modern times, and equally great as an architect. He was born in Italy (1474) and studied ancient art in Florence and Bologna where he became famous for his statuary. His best works are considered to be the Mater Dolorosa group in St. Peter's, Rome, the cathedral of St. Peter's, a great cartoon in the ducal palace at Florence, the frescoes in the Sistine chapel, Rome, and a picture, "The Last Judgment," nearly 70 feet high.

For this last named work he refused all payment. Michelangelo was summoned to Rome by Pope Julius II to design a monument. His work proved to be so colossal that the then existing church of St. Peter could not contain it. Hence a new cathedral was designed by him and remains one of the most magnificent artistic creations of the mind of man. Died (1563) at Rome but is interred in Florence.

Michelson, A. A., American scientist, born in Streino, Germany, Dec. 19, 1852, graduated from Annapolis, 1873, served two years as midshipman, assigned to the Department of Physics of the Academy, studied in the laboratories of the Universities of Berlin and Heidelberg, the College de France and the Ecole Polytechnique. He was the inventor of the interferometer, an instrument for measuring minute dis-

Michigan

tances and angles, his experiments in light made him world-famous and led to the accepted calculation of the speed of light as being 186,173 miles a second. Died at Pasadena, Calif., May 9, 1931.

Michigan, a State in the North Central Division of the North American Union; admitted to the Union, Jan. 26, 1837; number of counties, 83; area, 57,980 square miles; population (1930) 4,842,280; capital, Lansing.

The State is divided by the Great Lakes into two peninsulas, the lower of which occupies nearly two-thirds of the land area. The surface of the S. peninsula is generally level, broken by conical hills rising to an altitude not exceeding 200 feet.

The surface on either side of the Porcupine range is rugged. There are numerous lakes and marshes in both peninsulas, and the coast is much indented. The State has numerous large islands, the principal ones being the Manitou, Beaver, and Fox Groups in Lake Michigan; Isle Royale, and Grande Isle, in Lake Superior; Marquette, Bois Blanc, and Mackinaw in Lake Huron; and others in St. Mary's Strait.

The soil is of varied composition and in large areas is very fertile, especially in the S., but the N. peninsula for the most part is rocky and mountainous and the soil not adapted to agriculture. In 1925, the estimated value of all farm property was \$1,523,977,000. In the calendar year 1929 the value of 67 farm crops was \$198,400,000, hay leading with \$54,207,000 followed by corn, \$29,306,000, potatoes, \$23,012,000, dry beans, \$21,057,000, oats, \$19,625,000, wheat, \$18,994,000, apples, \$9,126,000, grapes, \$2,824,000, as well as small fruits and truck farm products. Livestock: 397,000 horses; 866,000 cows; 1,507,000 other cattle; 630,000 swine; 1,339,000 sheep.

Michigan has great mineral wealth in copper and iron. In 1928 the value of the mineral output was estimated at \$123,536,000; copper contributed 185,301,000 pounds, cement, 13,749,000 bbls., pig iron, 4,583,000 long tons and salt, 2,650,220 short tons.

The principal articles of manufacture are lumber, flour and grist mill products, foundry and machine shop

Michigan

Michigan Agricultural College

products, furniture, tobacco, iron and steel, clothing, and ship-building. For 1927 the State had 5,800 plants employing 488,856 wage earners, paying \$760,602,000 in wages and yielding products having a combined value of \$4,244,941,000 and paying \$2,346,678,000 for raw materials.

In 1929 there were 130 National Banks with resources of \$661,200,000 and State Banks and Trust Companies with savings deposits amounting to \$1,184,300,000.

The enrollment in public and private elementary and secondary schools in 1928 was 975,346. There were 701 public and private high schools and academies with 200,877 pupils and 29 universities, colleges and professional schools with 27,054 students. In 1928, \$48,340,000 were spent on public elementary and secondary schools for construction and maintenance.

In 1925 there were over 5,000 religious organizations reported with over 900,000 members, 4,500 churches, and property valued around \$50,000,000. The strongest denominations were the Roman Catholic, Methodist, Lutheran, Baptist, Presbyterian, and Congregational bodies in the order named.

In 1928 there were 8,209 miles of steam and over 1,700 miles of electric railroads in the State, the former representing thirteen of the great systems.

The State revenue in 1927 was \$76,975,512, the expenditures, \$77,540,927, the valuation of all taxable property, \$8,106,019,642. The total indebtedness for the State of Michigan was \$74,909,093 on June 30, 1927.

The governor is elected for a term of two years, and receives a salary of \$5,000 per annum. Legislative sessions are held biennially beginning on the first Wednesday of January, and are unlimited as to length. The legislature in 1928 had 32 members in the Senate and 100 in the House, salary of each \$800 per annum. There were 13 Representatives in Congress.

This region was first visited by Jean Nicolet in 1634, at Sault Ste. Marie, at which locality Father Marquette made the first permanent white settlement in 1668. French settlements were also made at Mackinaw and Green Bay, and in 1701 Detroit became the seat of a French colony

under Cadillac. The country passed to the English at the end of the French and Indian War, and during the war of the Indians under Pontiac for the extermination of the whites the garrison of Mackinaw was butchered and Detroit suffered a long siege. The country was held by the English after the close of the Revolution, being delivered to the Americans in 1796. Michigan became a portion of the Northwestern Territory, and in 1802 was annexed to the Territory of Indiana. On Jan. 11, 1803, it was set aside as a separate Territory. It suffered severely during the War of 1812, Detroit and Mackinaw being captured by the British, and the Territory held till the successes of the Americans in 1813. In 1818, all the region N. of Illinois and Indiana was incorporated with Michigan. In 1823, the legislative power was transferred by Act of Congress, from the governor and judiciary to a council of nine persons selected by the President from 18 nominees by the citizens at large; and the judicial term was reduced to four years. In 1825 the council was increased to 13 members, selected as before. Michigan was admitted into the Union as a State, Jan. 26, 1837, and in 1838 the capital was removed from Detroit to Lansing.

The State granted a school suffrage to women in 1875 and a conditional tax paying suffrage in 1908; but attempts to secure full suffrage for women were defeated in 1912 and 1913, the last on a recount. By the end of 1916 there were 14 cities under commission government.

Michigan is famous as a summer resort, the sands of its shore line on Lake Michigan providing recreation for thousands of vacationists each year. The northern peninsula, (Lake Superior region) abounds in fish and game. Among the more prominent lake towns are Michigan City, South Haven, St. Joseph, Benton Harbor, White Lake, Saugatuck, Holland, Mackinac and Ludington. The state is served by the Pere Marquette and Michigan Central railroads.

Michigan, University of, a coeducational, non-sectarian institution in Ann Arbor, Mich.; founded in 1837.

Michigan Agricultural College, a coeducational, non-sectarian institu-

tion in Lansing, Mich.; founded in 1857.

Micmacs, a tribe of Algonquin Indians, the first with whom the English came in contact in America; they remained hostile to the English and their colonies till 1760. They number from 3,000 to 4,000, and are mostly in Nova Scotia, Newfoundland, and New Brunswick.

Micrometer, an instrument used with a telescope or microscope to measure small distances, or the apparent diameters of objects which subtend very small angles. Micrometers are variously constructed. The field of the telescope may be provided with a graduated scale, or metallic ring, or a diaphragm having parallel and intersecting spider-lines or fine wires. The micrometer with a graduated scale is used for measuring distances by direct comparison.

Micro-organism, any microscopic being of the animal or vegetable kingdom; in a special sense, one belonging to the vegetable group bacteria.

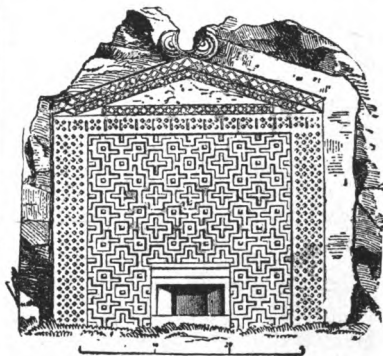
Microphone, an instrument for increasing the intensity of low sounds by communicating their vibrations to a more sonorous body which emits a more audible sound.

The radio and the more recent invention the talking motion pictures have brought the microphone or 'mike' as it is called in the parlance of the trade, into universal recognition and use. The type in general use consists of a round transmitter suspended from a light frame by spiral springs whose purpose, of course are to eliminate as much vibration as possible. It is sometimes set upon a pedestal.

Microscope, an optical instrument by which objects are so magnified that details invisible or indistinct to the naked eye are clearly seen. In a simple microscope the magnifying power is interposed directly between the eye and the object, in the manner of a magnifying glass; and though the power may consist of several lenses, they combine as one; a triple set of which either lens can be used singly, or any two, or all in combination, is usual. In a compound microscope, an aerial magnified image of the object is projected by one lens in the manner of a magic lantern, and this image is looked

at and further magnified by a second power as in the simple microscope.

Midas, in Greek legend, a King of Phrygia. For his kindness to Silenus he was promised by Dionysus whatever he should ask, and in his folly he asked that everything he touched should become gold; but, as the very food he touched was at once changed



TOMB OF MIDAS, 600 B. C.

into gold, he was soon fain to implore the god to take back his fatal gift. He was told to bathe in the sources of the Pactolus, and from that day to this its sands have yielded grains of gold.

Middle Ages, that period in the history of Europe which begins with the final destruction of the Roman empire, and by some historians considered to end with the Reformation; by others with the discovery of America; by others with the conquest of Constantinople; and again by some with the invention of the art of printing; all of which may be right, according to the special purpose of the historian. In general, it may be said the Middle Ages embrace that period of history in which the feudal system was established and developed, down to the most prominent events which necessarily led to its overthrow.

Middle States, New York, New Jersey, Pennsylvania, and Delaware, in allusion to the fact that at the time of the adoption of the Constitution

they were the central commonwealths of the federation.

Middletown, city and capital of Middlesex county, Conn.; on the Connecticut river and the New York, New Haven & Hartford railroad; 15 miles S. of Hartford; has important manufactures, but is best known for its institutions, which include Wesleyan University, the Berkeley Divinity School, State Insane Asylum, State Industrial School for Girls, and the Russell Library. Pop. (1930) 24,554.

Middletown, a city in Orange county, N. Y.; on the Wallkill river and the Erie and other railroads; 68 miles N. W. of New York city; is the seat of the State Asylum for the Insane and the Thrall Public Hospital; chief industries, dairying, stock-raising, and the manufacture of hats, saws, cut glass, pianos, and condensed milk. Pop. (1930) 21,276.

Midhat Pasha, a Turkish statesman; born in Bulgaria in 1825; entered the Turkish civil service; became governor of Bulgaria in 1862; and was in 1875 created grand vizier. He caused Abdul Aziz and Murad V. to be deposed and in 1876 was himself banished. Died May 8, 1884.

Miechow, a town of Russian Poland, 20 miles N. of Galician Cracow, 40 miles S. E. of Kielce. One of the bloodiest battles of the insurrection of 1863, which closed the national history of Poland, was fought here. It was founded by Gryphius Jaxa because, from a pilgrimage to the Holy Land, he fancied its situation resembled that of Jerusalem. Pop. about 3,500.

Mieris, Frans Van, a Dutch genre painter; born in Leyden, April 12, 1635. He was a favorite pupil of Gerard Dow. His pictures bring enormous prices, and are found in all the chief galleries. He died March 12, 1681.

Mignet, Francois Auguste Alexis, a French historian; born in Aix, Provence, France, May 8, 1796. In the spring of 1824 appeared his "History of the French Revolution," the first complete history by one other than an actor in the great drama. He died in Paris, March 24, 1884.

Mignonette, a well-known and highly fragrant flower, indigenous in Northern and Northeastern Africa.

Migration, in zoölogy, ornithology, etc., a term applied to the periodical or irregular movements of all animals, especially to those of birds and fishes. In all the temperate parts of the globe there are many genera and species of birds which reside only a part of the year, arriving and leaving at tolerably fixed epochs. Most of the birds that spend their spring and summer in the temperate parts of the United States pass the winter in the far S.; the winter visitants pass the summer in the extreme N., some of them breeding in Greenland, Lapland, or Iceland. Many sea fishes migrate to a limited extent for the purpose of depositing their spawn in favorable situations.

Miguel, Maria Evaristo, Dom, Duke of Braganza, and so-called King of Portugal; born in Lisbon, Portugal, Oct. 26, 1802; son of John VI. On the death of John, in 1826, Miguel was made regent, and offered the hand of Maria da Gloria, the legitimate heir to the throne, then on her way to Portugal. Notwithstanding his oath to the constitution, he caused himself to be proclaimed king, and forbade the entrance of Maria into the country. A revolution ensued, and Dom Pedro came from Brazil to support the claims of his daughter Maria, in which he was aided by France. Dom Miguel was, after several defeats, compelled to sign, in 1834, a capitulation at Evora, and to depart from Portugal. He died in Bronnbach, near Wertheim, Baden, Nov. 14, 1866.

Mikado, the Emperor of Japan, the spiritual as well as temporal head of the empire. From 1192 up to the revolution in 1868, the temporal power was in the hands of the tycoon or generalissimo of the army, the spiritual power only being vested in the Mikado, who lived in almost perfect seclusion. The government now is a constitutional one, and the Mikado appears among his subjects.

Miklas, Dr. Wilhelm, President of Austria, former speaker of Parliament.

Milan, a city of Northern Italy, capital of the province of Milan, and the former capital of Lombardy. One of the finest and most pleasing cities of Europe, it is circular in form, and

surrounded by a wall ten miles in circuit, but, like most of the old cities, it is irregularly laid out. The most remarkable among its public buildings are the cathedral, an imposing Gothic structure, inferior only to that of St. Peter's at Rome, or St. Paul's of London, being 485 feet long, 252 feet broad, and height of dome 355 feet, adorned with over 4,500 statues; the church of St. Ambrose, in which the German emperors usually received the Lombard crown; the Palazzo del Corte, or royal palace, and the Teatro della Scala. The city is entered by 10 gates, of which the Porta Orientale is the richest and most remarkable. In the Piazza di Castello is an arena built by Napoleon I. in 1806, on the model of the amphitheater at Rome. Among the principal institutions is the Ambrosian College, containing a library of over 95,000 volumes, and 15,000 MSS., also a gallery of paintings, containing several fine works by Titian, Da Vinci, Luini, Albano, etc., and sketches by Raphael, Pietro de Cortona, and Caravaggio. Milan is the center of the silk trade of Northern Italy; and, besides an extensive trade in rice and Parmesan cheese, is, next to Venice, the largest book mart in Italy. Pop. (1927) 877,424.

Milan I., King of Serbia; born in Jassy, Moldavia, Aug. 10, 1854. He studied at Paris, at the Lycee Louis-le-Grand. The assassination of his cousin, Prince Michael, caused his recall to Serbia, where he was proclaimed prince at the age of 14. A Council of Regency administered the government till the prince came of age. In 1875 he married Natalie, Princess of Stourdza, from whom he was afterward divorced, and by whom he had a son, who became King Alexander. Owing to the troubles arising out of disagreement with the queen, he abdicated in favor of his son, March 6, 1889. He was reconciled to Queen Natalie in 1893, and in 1894, despite his pledge to the contrary, he returned to Belgrade. After many subsequent vicissitudes he became bankrupt. He died in Vienna, Feb. 11, 1901.

Milan Decree, a decree issued by Napoleon I. from Milan, Feb. 18, 1801, for cutting off Great Britain from all connection with the Continent.

Milan Edict, an edict issued by Constantine the Great from Milan, A. D. 313, granting toleration to Christianity and all other religions in the Roman empire.

Milanes, Jose Jacinto, a Cuban poet; born in Matanzas, in August, 1814. His drama "El Conde de Alarcos" at once gave its author fame, as it contains passages of very passionate poetry. Many of his poems have been translated into English, French, and Italian, and nearly all his works into German. He died in November, 1863.

Milburn, William Henry, an American clergyman and author; born in Philadelphia, Pa., Sept. 26, 1823; became widely known as "the blind preacher," and was many times chaplain of the National House of Representatives, and in 1893 of the National Senate. He died April 11, 1903.

Mildew, a morbid appearance produced on plants by the ravages of parasitical fungi or other cause, or the parasitical fungus itself which produces the morbid appearance. Such fungi are always minute, and sometimes microscopic. Different genera and species attack different plants.

Mile, a measure of length or distance in use in the United States and almost all European countries. The English statute mile, in use in the United States, contains 8 furlongs, or 320 poles, or 1,760 yards or 5,280 feet; in surveying it measures 80 chains. A geographical mile is 6,075 feet (nearly), or 1.15 statute miles.

Mileage, in the United States, fees paid to certain officials, such as members of Congress, of State legislatures, etc., for their traveling expenses, at so much per mile. The system has in the past led to gross abuses, each senator and representative estimating for himself the distance he had traveled. Now, however, there is a fixed table of mileage, and the total annual cost, for both houses of Congress, is many thousands of dollars.

Miles, George Henry, an American dramatist; born in Baltimore, Md., July 31, 1824. In 1850 his "Mohammed" won the \$1,000 prize offered by Edwin Forrest for the best play by an American author. He wrote many poems, plays, and sketches. He died in Thornbrook, Md., July 23, 1871.

Miles

Miles, Nelson Appleton, an American military officer; born in Westminster, Mass., Aug. 8, 1839. At the breaking out of the Civil War, he was engaged in mercantile pursuits in Boston, Mass.; entered the service as 1st lieutenant of the 22d Massachusetts Regiment in October, 1861; and distinguished himself at the battles of Fair Oaks, Charles City Cross Roads, and Malvern Hill. In September, 1862, he was commissioned colonel of the 61st New York regiment, which he led at Fredericksburg and Chancellorsville, where he was severely wounded. He commanded the 1st Brigade, 1st Division, 2d Army Corps, in the Richmond campaign, and was promoted Brigadier-General, May 12, 1864; and brevetted Major-General for gallantry at Ream's Station in December, 1864. At the close of the war he was commissioned colonel of the 40th United States Infantry. He was promoted Brigadier-General in December, 1880; Major-General in April, 1890; and succeeded Lieut.-Gen. John M. Schofield as commander of the army in 1895. He took a prominent part in the wars with the Indians in 1874 and thereafter. On July 13, 1898, he went to the front and assumed personal command of the army around Santiago, Cuba; and after the surrender of the Spanish army commanded the expedition which left Guantanamo Bay, July 21, landed at Guanica, Porto Rico, July 25, and was marching on San Juan, the capital, when the armistice stopped hostile operations. On the reorganization of the army in 1901 the grade of Lieutenant-General was revived and he was promoted to it. In December, 1901, he publicly expressed satisfaction with Admiral Dewey's report on Rear-Admiral Schley and was reprimanded therefor. He was retired upon reaching the age limit, August, 1903. He has received many tokens of public esteem. D. 1925.

Milford, a town in Pike county, Pa.; on the Delaware river and several railroads; 8 miles S. W. of Port Jervis; contains a number of pre-Revolutionary buildings; is widely known as an outfitting resort and starting point of hunting parties; and is the site of the Yale Summer School of Forestry. See "Pike County Ballads."

Military Academy

Military Academy, United States, a technical educational institution, established at West Point, N. Y., by Act of Congress, in 1802.

Each United States Senator, Representative in Congress, and Territorial Delegate—also the District of Columbia—is entitled to have one cadet at the academy. There are also 8 appointments at large, especially conferred by the President of the United States. The number of students is limited to 1,338. Twenty are appointed from military schools, one hundred and eighty are appointed from enlisted men of the Army and National Guard.

Appointments are usually made one year in advance of date of admission by the Secretary of War, upon the nomination of the senator, representative, or delegate. Appointees to the military academy must be between 17 and 22 years of age, free from any infirmity which may render them unfit for military service, and able to pass a careful examination in reading, writing, orthography, arithmetic, grammar, geography, and history of the United States.

The course of instruction requires four years, and is largely mathematical and professional. The principal subjects taught are mathematics, French, drawing, drill regulations of all arms of the service, natural and experimental philosophy, chemistry, chemical physics, mineralogy, geology, and electricity, history, international, constitutional, and military law, Spanish, and civil and military engineering, and art and science of war, and ordnance and gunnery. The discipline is very strict—even more so than in the army—and the enforcement of penalties for offenses is inflexible rather than severe.

From about the middle of June to the end of August cadets live in camp, engaged only in military duties and receiving practical military instruction. Cadets are allowed but one leave of absence during the four years' course, and this is granted at the expiration of the first two years. The pay of a cadet is \$1072 per year, and, with proper economy, is sufficient for his support. The number of students at the academy is usually about 425.

Upon graduating cadets are com-

missioned as second lieutenants in the United States army. In June 1928 there was a total enrollment of 1166 cadets at the Academy. In the course of studies, the discipline maintained, and the soldierly character of the graduates, West Point is far superior to similar institutions in England and on the European continent, where birth, more than merit, governs the selection of students.

Military Bicycle Corps, bodies of completely drilled and equipped troops trained to the use of the bicycle attached to the armies of several countries.

Military Masts, masts on a modern fighting ship, provided purely for military purposes, and not to carry sails. They are of steel, and hollow, and through them access is had to the various structures connected therewith.

Military Order of Foreign Wars, an American organization founded in New York, Dec. 27, 1894, by veterans and descendants of veterans of one or more of the four foreign wars which the United States had been engaged in, to-wit: The War of the Revolution, the War with Tripoli, the War of 1812, and the Mexican War. Since the establishment of the order the United States has fought its fifth foreign war. By an amendment to the constitution all American officers who participated in the war with Spain in 1898, are rendered eligible to membership as veteran companions.

Military Orders, in Europe, religious associations whose members united in themselves the double characters of monk and knight. These orders arose about the period of the Crusades, the first to be formed being the Hospitallers. Their primary duties were to tend sick pilgrims at Jerusalem, afterward to protect them also on their way to the Holy City. The order of the Templars soon followed, and to these many others were later added. These religious associations have mostly been abolished or have fallen into disuse, though some still subsist as orders of knighthood.

Militia, the civilian military force of a nation consisting of citizens trained to arms, and subject to be called forth to enable the executive to

execute the laws of that country, suppress insurrection, and repel invasion. They are not a standing army in the sense of being continually under arms, but are subject to the call of the President in the event of war. The organization is called in the United States the National Guard. On October 31, 1925, according to figures quoted by the Secretary of War, the total enlistment including the Air Service was 164,596 men. The Militia is also used for police duty by the states.

Militia, Naval, a body organized in a number of the United States, under authority of an Act of Congress, and forming a part of the State militia. The duty of the naval militia in time of war is to man the coast and harbor defense vessels, thus leaving free the regular force to carry on offensive operations at sea. This militia was organized in 24 States and Territories in 1916; total force, 8,517.

Milk, the fluid secreted by all female mammals for the nourishment of their young. As an alimentary substance, it may be regarded as a perfect food. It consists essentially of a solution of sugar, albuminous and saline matter, and holds in suspension a certain portion of fat in the form of very minute globules. The same constituents are found in the milk of all the mammals, but they differ considerably in the proportion in which they are present in each kind. In all large American communities strict ordinances are enforced to prevent the sale of impure or adulterated milk.

Milk Snake, a harmless snake of a grayish ash color, with three rows of dark spots along the back and sides. It is found in the Northern and Middle United States.

Mill, a money of account in the United States, being the thousandth part of a dollar, or tenth part of a cent. The mill, however, is not coined.

Mill, a machine for grinding grain, fruit, or other substances, and reducing them to a fine powder. Also a machine, or complication of engines or machinery, for working up raw material, and preparing it for immediate use or for employment in a further stage of manufacture; as, a cotton mill, a spinning mill, a saw mill, an oil mill, a cider mill, etc.

Mill, James, an English political economist; born in Forfarshire, Scotland, April 6, 1773. In 1818 he published his admirable "History of British India"; a work of great research and powerful reasoning. He also produced several valuable works on legislation and morals, viz., his "Elements of Political Economy," "Laws of Nations," etc. In morals and legislation he was the powerful auxiliary of Jeremy Bentham; in political economy the ally of Adam Smith and Ricardo; and in philosophy he was a follower of Bacon and Locke. He held the office of chief examiner of accounts to the East India Company. He died in Kensington, June 23, 1836.

Mill, John Stuart, an English philosopher and political economist; born in London, England, May 20, 1806. All his studies, in which he showed remarkable precocity, were conducted under the superintendence of his father, and under the paternal roof. From 1835 to 1840 he was editor and part proprietor of the "London and Westminster Review," in which many of his own articles appeared. His "System of Logic, Ratiocinative and Inductive," appeared in 1843 and was followed by a long list of standard works. His "Autobiography" was published after his death, which occurred in Avignon, France, May 8, 1873.

John Stuart Mill was a positivist in his philosophy, inasmuch as he adopted some of the leading principles of Auguste Comte, but in its historical relations as well as in its fundamental principles, his philosophy does not belong to positivism but to the school of speculative empiricism, successively and variously developed by Locke, Berkeley, Hume, Hartley, and James Mill, the aim of which is to establish a psychology on the basis of experience and in alliance with the natural sciences.

As an economist Mill occupied a double and somewhat conflicting position. In his "Principles of Political Economy" he assumes the position of a logical exponent of the principles of the utilitarian school of Adam Smith, Ricardo, and James Mill, founded on the orthodox doctrine of proprietary rights, but he was by no means an unquestioning adherent of this doctrine.

In regard to proprietary rights, he drew a distinction between landed and movable property. The soil he held to be the property of the community, and individual property in it to be a right held contingently on the consent of the State. The socialistic principle of the right of labor he did not consider it reasonable absolutely to repel. He held that it was possible for the State to guarantee employment provided it took the multiplication of the people under its control, and he believed that public opinion might be so educated that the restriction against undue multiplication might be made a legal one.

Millais, Sir John Everett, an English painter; born in Southampton, England, June 8, 1829. In portraiture he held the foremost rank, and painted a number of the most distinguished men of his day. Many of the works of Millais are well known by engravings. He was chosen president of the Royal Academy in 1896. He died in London, Aug. 13, 1896.

Millennium, in Scripture, a period of 1,000 years, during which Satan shall be confined to the bottomless pit, having first been bound, by an angel, with a great chain (Rev. xx: 1-3), while the souls of those who have been "beheaded for the witness of Jesus," and have not worshiped the beast or his image, or received his mark on their foreheads or their hands, shall live and reign with Christ for 1,000 years (Rev. xx: 1-6).

During the first three centuries, when Christians were at intervals in danger of martyrdom, and many actually suffered death, the millennium loomed largely before their minds; the second advent of Christ, interpreted literally, was considered to be pre-millennial, and the millennium to be a literal reign of Him and the martyrs. From about the year 950 yet another opinion arose and gained extensive credence.

The millennium to be heralded by the coming of Jesus, began with His first advent, and was now about closing. Many landed proprietors, therefore, believed they should no longer require their estates, and might atone for their sins by giving them over to the Church, the deed of bequest commencing with the words *Appropria-*

quante mundi termino (As the end of the world is approaching), and the estates were not returned when it was found that the world outlasted the year 1,000. Various opinions concerning the millennium are now held.

Miller, Charles Ransom, an American journalist; born in Hanover, N. H., Jan. 11, 1849; graduated from Dartmouth in 1872; was on the editorial staff of the Springfield "Republican," 1872-75; with New York "Times" since 1875, and editor-in-chief since 1883; also vice-president and a director of "The New York Times" Co.; member of the Century and other clubs.

Miller, Cincinnatus Heine, better known as Joaquin Miller, an American poet; born in Wabash district, Ind., Nov. 10, 1841. His checkered life included the extremes of being a California gold miner, editor of an Oregon newspaper, an Oregon lawyer and judge, journalist at Washington, D. C., etc. His "Collected Poems" appeared in 1882. After that he published both poetry and prose. He died Feb. 17, 1913.

Miller, Emily Huntington, an American educator; born in Brooklyn, Conn., Oct. 22, 1833. She was president of the Woman's College of the Northwestern University, Ill.

Miller, Harriet (Mann), pseudonym Olive Thorne Miller, an American writer of children's stories; born in Auburn, N. Y., June 25, 1831; particularly distinguished for her descriptive books of birds. Died 1918.

Miller, Joseph Nelson, an American naval officer; born in Ohio, Nov. 22, 1836; joined the navy in 1851; was promoted lieutenant in 1860; served with distinction through the Civil War, and after successive promotions was made rear-admiral March 21, 1897. He represented the United States navy at Queen Victoria's Jubilee in 1897, having the "Brooklyn" as his flagship. As Commander-in-Chief of the Pacific Station he raised the American flag at Honolulu in August, 1898, indicating the change of sovereignty of the island. He retired, Nov. 22, 1898; died April 26, 1909.

Miller, Warner, an American legislator; born in Oswego co., N. Y., Aug. 12, 1838; was graduated at

Union College in 1860. When the Civil War broke out he enlisted in the 5th New York Cavalry, and was afterward promoted to 1st lieutenant. On the resignation of Thomas C. Platt, in 1881, he was elected to fill that unexpired term in the United States Senate; in 1888 was the Republican nominee for governor of New York, but was defeated. Died, 1918.

Miller, William, an American religious leader; born in Pittsfield, Mass., Feb. 15, 1782. In 1815 he took up his residence at Low Hampton, N. Y. He became deeply interested in the prophecies of the Bible and in 1831 predicted the second coming of Christ and fixed the year 1843 as the time at which the world would be destroyed. Hundreds of people became converts to his belief and before the appointed time had arrived had given up their business and devoted themselves to preparation for the event. The believers in the peculiar doctrines of this sect are now called Millerites or Second Adventists and have their headquarters at Battle Creek, Mich. Miller died in Low Hampton, N. Y., Dec. 29, 1849.

Miller, William Henry Harrison, an American jurist; born in Augusta, Oneida co., N. Y., Sept. 6, 1840. He was graduated at Hamilton College. In 1874 he went to Indianapolis, and entered into partnership with Benjamin Harrison. When the latter was elected to the presidency, he chose Miller to be Attorney-General in his cabinet.

Miller, Fort, a Revolutionary defensive work on the site of the present village of Fort Miller, in Fort Edward township, Washington co., N. Y.; on the Hudson river, 40 miles N. of Albany.

Millet, the common name for a great number of cereal plants, the grains of which are used as food, and for making a kind of beer, in various countries.

Millet, Francis Davis, an American artist and author; born in Mattapoisett, Mass., Nov. 3, 1846; was graduated at Harvard College in 1869. His art work was largely in connection with expositions. He was very successful as correspondent of the London "Daily News" in the Turco-Russian war; was special correspondent

of the London "Times" and "Harper's Weekly" at Manila, and a contributor to periodicals. He was lost on the "Titanic," April 15, 1912.

Millet, Jean Francois, a French painter; born in Gruchy, near Cherbourg, France, Oct. 4, 1814. In 1849 he left Paris and settled at Barbizon, on the edge of Fontainebleau Forest, and devoted himself to transferring the simple every-day life of the French peasantry to his canvases, which he did with great truth of sentiment and subdued poetic charm. Of his paintings may be mentioned "The Angelus," which was sold by auction in Paris, in 1889, for about \$115,000. He died in Barbizon, France, Jan. 28, 1874.

Milliard, the French collective name for a thousand millions; familiar in connection with the five milliards of francs (5,000 millions of francs, or \$1,000,000,000) paid by France as war indemnity to Germany in 1871-1873.

Millimeter, a French lineal measure equal to the thousandth part of a meter, or .03937 of an English inch.

Mills, Abraham, an American writer; born in Dutchess co., N. Y., in 1796. He published "Literature and Literary Men of Great Britain and Ireland," etc. He died in New York city, July 8, 1867.

Mills, Albert Leopold, an American military officer; born in New York city, May 7, 1854; was graduated at the U. S. Military Academy in 1879; served in the war with Spain, being conspicuous for bravery at Las Guasimas and Santiago; was promoted to Brigadier-General in 1904; was superintendent of the United States Military Academy in 1898-1906, and became chief of the Division of Military Affairs, General Staff, in 1912.

Mills, Robert, an American architect; born in Charleston, S. C., Aug. 12, 1781; became architect for the United States government in 1830; and drew the plans for the United States postoffice and treasury buildings. He was the architect of the Washington Monument, on which work was started, in 1848, on site chosen by General Washington for a memorial of the Revolutionary War. He died in Washington, D. C., March 3, 1855.

Mills, Roger Quarles, an American politician; born in Todd co., Ky., March 30, 1832. In 1849 he removed to Texas and was a member of Congress from that State in 1873-1892. He served in the Confederate army during the Civil War. While chairman of the Ways and Means Committee (1887-1889) he introduced the Mills Bill. He served in the U. S. Senate 1892-99. He died Sept. 2, 1911.

Millsaps College, an educational institution in Jackson, Miss.; founded in 1892 under the auspices of the Methodist Episcopal Church.

Mills Bill, a tariff bill, named from the chairman of the Ways and Means Committee (R. Q. Mills) of the National House of Representatives, passed by the Democratic House in 1888 and rejected by the Republican Senate. It placed wool, lumber, hemp and flax on the free list and reduced duties on pig-iron, woolen goods, etc.

Mills College, an educational, non-sectarian institution for women, in Seminary Park, Cal.; founded in 1871.

Milman, Henry Hart, an English historian; born in London, England, Feb. 10, 1791. In 1838 he edited Gibbon's "Decline and Fall of the Roman Empire," and in 1839 published a "Life of Gibbon." He published in 1855 his most important work, "The History of Latin Christianity down to the death of Pope Nicholas V." He died near Ascot, Sept. 24, 1868.

Milo, wrestler and athlete of Crotona in Italy, of extraordinary strength and endurance.

Miltiades, an Athenian general, hero of Marathon. He was the youngest son of Cimon, and succeeded his brother Stesagoras about 515 B. C., as tyrant of the Chersonese. On occasion of the second Persian invasion of Greece, 490, Miltiades signaled himself by a great victory over the Persians, on the field of Marathon. Having persuaded the Athenians to give him the command of a fleet, he used it for private ends in an attack on Paros. The attack failed, Miltiades was severely wounded, and on his return to Athens was prosecuted and imprisoned for deceiving the people. His death took place in prison soon after, about 489 B. C.

Milton, John, an English poet; born in London, England, Dec. 9, 1608. His father, a notary, was a man of cultivated mind, and gave him a careful education, which was continued at St. Paul's School and the University of Cambridge. He entered the latter in 1624, and quitted it in 1631, without taking his degree of M. A. His first polemical work was a treatise "Of Reformation" (1641). On the establishment of the Protectorate Milton became secretary to Cromwell, and remained so till the death of the latter in 1658. Several years before that time he had become totally blind, deliberately and heroically preferring as he says, the loss of his sight to the desertion of his duty. The last short intervals of sight allotted him were devoted to the composition of the "Defense."

In 1665, being in his 57th year, he completed "Paradise Lost," and it was published in 1667. It was sold for \$25 to a bookseller, who engaged to pay a like sum for each 1,500 copies that should be sold from each of the three editions of 2,000 each. In two years the first of these additional payments was due and made; a second edition was published in 1674, and a third in 1678. This was a large sale in that age, even for the greatest epic in the English language. His second epic was written with great quickness, perhaps altogether during a retirement of several months which he made to Chalfont in Buckinghamshire, on the breaking out of the plague in London in 1665. He died in London, on Sunday, Nov. 8, 1675.

Milwaukee, a city, port of entry, county-seat of Milwaukee co., Wis., and the largest city in population and importance in the State; on the W. end of Lake Michigan, 85 miles N. by W. of Chicago, area 25 1/2 sq. m.; pop. (1920) 457,147; (1930) 578,249.

It has a beautiful harbor into which stretch many extensive piers utilized by steamboat lines; and has regular communication by water and rail with all the chief cities on the Great Lakes.

The Milwaukee river extends through the principal part of the city, and with the Menominee and Kinnickinnia rivers, with which it connects, divides it into three sections, known respectively as the East, West, and

South sides. All of these rivers are navigable for the largest lake vessels.

The public buildings include the County Court House, a magnificent edifice erected at a cost of \$4,100,000; the City Hall, finished in 1896, at a cost of \$1,200,000; and many others.

Milwaukee is an important manufacturing center. Its flour mills are very large, often having a daily output of over fifteen thousand barrels, and its grain elevators have a total capacity of over five and one half million bushels. Pork packing is also carried on extensively here.

In 1924 it was estimated that Milwaukee had 1,627 manufacturing plants, employing 126,553 wage earners, paying \$184,759,735 for wages and yielding combined products valued at \$956,729,567. Prior to ratification of the 18th Amendment, Milwaukee was noted for its brewing industries.

Milwaukee was founded in 1835, and chartered as a city in 1846. The first white settler on the site of the city, was Juneau, a French fur trader, who came here in 1817, when the place was a Pottawattamie village. The growth of the city has been very rapid. The Germans, who make up one-half of the population, have everywhere made their influence felt.

Milyukoff, Paul Nikolaivitch, a Russian statesman; born near Petrograd in 1866; was educated in Moscow University and became a lecturer in history there; was soon forced by his liberal views from the post; went to Bulgaria in 1893 and organized the State College of Sofia; engaged in literary work till the inception of the liberal movement in Russia; lectured at the University of Chicago in 1905; was first elected to the Duma in 1907; edited the "Free Nation" and the "Retch"; published "Russia and the Crisis" (1905), "Democracy and the Second Duma" (1905), "A Year of Struggle" (1907), and "Crises and Politics" (1910); and on the overthrow of the Russian monarchy, March 16, 1917, he was appointed Foreign Minister of the Provisional Government.

Mimeograph, an instrument by which copies of any document may be transcribed and multiplied, through the use of a stencil made of thin paper.

Mind, Human. The human mind may be considered either as a whole or as comprehending various powers, active or passive, faculties, or capacities, which may be specially observed and described. This susceptibility of division indicates the greatness of the subject. A preliminary difficulty also attends the inquirer at its threshold. It cannot be defined or illustrated by reference to other subjects. Mind is unlike anything else. If we are to know anything about it it must be by direct observation. This indicates the method of inquiry suitable to the subject; and it is to the neglect of this method that most of the confusion and contradiction, as well as some of the obscurity which surrounds it, is to be ascribed. This method is that properly called the psychological; for its establishment or restoration modern philosophy is indebted to Descartes.

A much agitated question is as to the origin of the soul in connection with the human body. Various answers have been given to this question by spiritualists. Pythagoras, Plato, and others, believed in the pre-existence of the soul. Tertullian, Luther, and Leibnitz held that all human souls existed in germ in our first parent, and have been transmitted by generation. The most common opinion is that each soul is created by God at the moment of its junction with the body. Another question much agitated relates to the extent of the functions of the soul. The great majority of philosophers attribute to its origination all the vital functions of the body. Another class, however, among whom is Maine de Biran, limit it to the voluntary and intelligent actions; and some of this class give man both an animal soul, like the beasts, and a mind, spirit, or intelligent soul. Another question which has caused great perplexity is the extent of the resemblance between human and brute intelligence. It is clear that observation supplies no absolute distinction between human and brute intelligence except one of degree. We have at least not been able to discover any faculty or attribute of human intelligence of which some germ may not be discovered at least among the higher animals. But the consequences of this analogy appeared so formidable to Descartes that he abandoned the method

of observation and took to that of hypothesis in order to demolish it. According to him the lower animals were pure automata, or organized machines. This hypothesis, which is actually introduced in his "Discourse on Method," though not directly connected with psychology, is as great a deviation from his own method, of receiving nothing as truth but what is clearly demonstrated to be such, as could well be practised.

The question of the immortality of the soul is usually associated with the question of its origin, material or immaterial, but it is more properly associated with theism or atheism. He who believes that the author of our being is an infinite intelligence, may reasonably assume the permanence of his work; but he who attributes it to a blind chance has no criterion to guide him in estimating future possibilities. The division of the powers of the mind into particular faculties may be considered as partly natural and partly arbitrary. Every philosopher adopts, to some extent, a classification of his own, but the distinction of such powers as memory, imagination, and reason cannot be held as merely artificial. The faculties are frequently grouped in a threefold division, as those of emotion, intellect, and will.

Mindanao, one of the Philippine Islands, next to Luzon in point of size; length, about 300 miles; breadth, 105 miles; area, 45,356 square miles; pop. (Est.) 530,000. All the country, except on the sea-coast, is mountainous, the volcano of Apo being 8,819 feet high. Some coffee, cocoa, and cotton are exported. The chief town is Zamboanga or Samboangan, a port and naval station at its W. extremity. This island was ceded by Spain to the United States, Dec. 10, 1898.

Mindoro, one of the larger of the Philippine Islands, situated S. of Luzon, from which it is separated by the Strait of Manila; length about 110 miles, breadth about 53 miles; area, 4,040 square miles; pop. (1923) 46,193. It is evidently volcanic, the climate is hot and the rain almost incessant. Rice, cacao, and wild cinnamon are among the products.

Mineralogy, the natural history of the mineral kingdom, considered as a pure science. The observations made

at first related simply to the usefulness of minerals to the purposes of society, and it was not before the lapse of many ages that they came to be investigated on account of their great variety and the beautiful arrangements of which they are susceptible.

The general subdivisions in the classification of minerals adopted by Dana in the last edition of his work on "Mineralogy" are as follows:

I.—NATIVE ELEMENTS.

- | | |
|----------------|--------------------------|
| Series 1. | Series 2. |
| 1. Gold group. | 1. Arsenic group. |
| 2. Iron group. | 2. Sulphur group. |
| 3. Tin group. | 3. Carbon-silicon group. |

Series 3.

1. Chlorine, bromine, iodine group.
2. Fluorine group.
3. Oxygen group.

II.—COMPOUNDS.

The more negative element an element of series 2 (above).

- | | | |
|--|---|---|
| 1. Binary. | 2. Binary. | 3. Ternary. |
| <i>Sulphides, etc., of metals of sulphur and arsenic groups.</i> | <i>Sulphides, etc., of metals of gold, iron and tin groups.</i> | <i>Sulpharsenites. Sulphantimonites. Sulphobismuthites.</i> |

III.—COMPOUNDS.

The more negative element an element of series 3, group 1 (above).

Chlorides. Bromides. Iodides.

IV.—COMPOUNDS.

The more negative element an element of series 3, group 2 (above).

Fluorides.

V.—COMPOUNDS.

The more negative element an element of series 3, group 3 (above).

1. Oxides.
2. Silicates.
3. Phosphates, Nitrates, Borates, etc., etc.

VI.—HYDRO-CARBON COMPOUNDS. MINERALS OF ORGANIC ORIGIN.

The maximum production of minerals in the United States was reached in the calendar year 1913. In the 32 years from 1882 to 1913, inclusive, the value of the mineral products of the country increased from \$451,901,159 to \$2,445,805,017. The most striking increases made in the period stated were in the production of iron, copper, and gold, the fuels (coal, petroleum, and natural gas), and in cement. The value of the pig iron product, including that made from foreign ores, increased from \$106,336,429 to \$458,342,345; copper from \$16,038,091 to \$205,139,338 (in maximum year 1912); gold, from \$32,500,000 to \$93,451,500 (1912); anthracite and bituminous coal, from \$146,632,581 to \$760,488,785; petroleum, from \$23,631,165 to \$237,121,388; natural gas, from \$215,000 to \$87,846,677; and cement, from 3,165,000 barrels of natural and 85,000 barrels of Portland to 92,949,102 barrels of Portland, valued at \$93,001,169, the natural having declined to slight proportions.

Minerva, in Roman mythology, the goddess of wisdom and war, the liberal arts, science and learning. The serpent, the owl, and the cock were sacred to her; and among the plants, the olive. She was worshiped over all parts of Greece; but her great temple was the Parthenon at Athens, where she was the presiding goddess, and in which fane there was a colossal statue of her, by Phidias, overlaid with ivory.

Mines, John Flavel, pseudonym Felix Oldboy, an American journalist; born in Paris, France, Jan. 27, 1835. Originally a student of theology, he entered the army as chaplain in 1861; but afterward abandoned the ministry, received a commission, and was mustered out as lieutenant-colonel in 1865. Died in New York city, Nov. 5, 1891.

Miniature Painting, the painting of portraits on a small scale. It originated in the practice of embellishing manuscript books. The last famous miniature painter was Sir William Ross (1794–1860), who lived to see his art superseded by photography. The number of his miniatures in existence is said to number over 2,200. Photography may be said to have killed the art, though miniatures have continued to be painted; but enthusiasts hope from the interest now taken in historical specimens that the art may yet be revived.

Minie, Claud Etienne, a French military officer, inventor of the Minie

rifle; born in Paris, France, in 1814. He devoted his principal thought to the perfecting of firearms, and in 1849 invented the Minie rifle. In 1858 the Khedive of Egypt appointed him director of a small arms factory and musketry school in Cairo. He died in 1879.

Mining, the processes whereby minerals are obtained from their natural localities beneath the surface of the earth, and the subsequent operations by which many of them must be prepared for the purposes of the metallurgist. The art has been practised from the remotest times. In the case of horizontal beds lying parallel to the stratification of the surrounding rocks and below water level a shaft is sunk till the mineral is reached. Machinery is used to extract the whole of the mineral, due precautions being taken to avoid danger from falls of roof and from noxious gases. In the case of veins or lodes and inclined beds the inclination and change of direction have to be studied. The miner looks unfavorably on vertical veins; for he considers that the chance of their being productive is much less than in inclined ones. In some cases a vertical shaft is sunk, and passages, known as cross-cuts are driven from this to the vein at different levels. A vertical shaft presents the advantages of greater ease in sinking, hauling, and pumping. At the Comstock lode in Nevada, thousands of dollars were wasted in sinking a perpendicular shaft, the advantages of which were urged with considerable plausibility. A deep shaft may cost from \$50,000 to \$250,000. In the case of an inclined shaft the ore obtained from the shaft itself enables some of the charges to be recouped.

With inclined shafts it is often out of the question to put in the highly-perfected engines used at collieries, the object being not the removal as quickly as possible of large quantities of material, but the exploration of the vein by slow and careful degrees at many points and with a moderate number of men. In the anthracite coal mines of Pennsylvania, a large majority of the mines are opened by inclined shafts or "slopes."

Many notable mines have been discovered by accident. Thus, the obser-

vation of the pellets picked up by birds led to the discovery of veins of gold in Lower Hungary. The famous silver mines of Potosi are said to have been discovered by an Indian, who, taking hold of a bush to prevent his falling, pulled it up by the roots and thereby disclosed glittering masses of native silver. Gold was discovered in California by James W. Marshall, in 1848, while cutting a small millrace.

Prospecting for ores of the heavy metals is carried on generally by surface examination. The "float" or loose ore being discovered in stream beds or in gullies, is traced to its source in the hillsides or places where the bare rock is exposed. As the veins are usually highly inclined, they intersect the surface, and often make prominent ridges. The further exploration, after the finding of the vein, consists in tracing its course on the surface, and in excavations in the vein itself, which often produce sufficient ore to repay the cost of exploration. In the search for horizontal deposits, the best evidence is obtained by putting down bore holes. These are made by various methods, and are put down to a depth of a few feet when required for testing the character of the foundation subsoil, or, in other cases, to thousands of feet when required in seeking for or estimating the value of deposits of coal, salt, and iron ore. Ages ago bore holes were put down by the Chinese to a depth of 3,000 feet. Recently, in America and Europe, greater depths have not infrequently been attained. A bore hole at Pittsburg, Pa., was sunk to a depth of 4,625 feet. At Schladebach, near Merseburg, the deepest bore hole in the world was put down by the Prussian government in search of coal, and the depth attained amounted to 5,834 feet.

The average depth of coal mines before the introduction of the steam engine did not exceed 100 yards. The deepest shaft in the world was till recently that of a silver lead mine in Bohemia, at Przibram, where the Adalbert shaft is 3,432 feet in depth. This depth has, however, been exceeded in the Lake Superior copper-mining district, where a number of shafts have reached a depth of 4,000 feet, and one, the Red Jacket of the Calumet & Hecla Co., was sunk to a depth of 4,880 feet.

Many deposits of gold ores, as those first worked in California and those of the Klondike, are in the gravel or sand in the present or ancient stream beds. Such deposits are called "placers." In working these deposits in the beds of existing streams, the course of the stream may be deflected by a dam and sluice, and the water of the stream utilized for separating the gold from the gravel which may be dug from the stream bed. In the case of larger streams, mechanical dredges remove the material from the bottom, which after separation of the gold is returned to the stream bed. In the old placers which are abandoned stream courses, generally above water level, hydraulic mining is resorted to. A stream of water from 6 to 12 inches in diameter and under the pressure caused by a head of several hundred feet is directed on the hillside where the old placer outcrops and rapidly washes it away. The material removed is sorted by the same water and the gold separated.

As a general rule, in the United States, whoever is the owner of freehold land has a right to all the mines underneath the surface, for his absolute ownership extends to the center of the earth; but under special grants and contracts it is not uncommon for one person to be owner of the surface of the land and another to be owner of the mines beneath; or several persons may be owners of different kinds of mines lying one above the other in different strata. On the public lands of the United States, a title or license may be obtained by any citizen from the general land office at Washington, at the rate of \$5 per acre of surface preempted; no royalty is paid, but the claim must be worked in accordance with both local regulations and with the general mining laws, which prescribe as one condition the performance of a certain amount of work annually. If this condition is not fulfilled, the mine may be "denounced" and any other person may secure the claim.

Minister, in politics, one to whom a sovereign intrusts the direction of affairs of state. In the United States the term is officially applied only to diplomatic representatives in rank next to ambassador. Clergymen below the

rank of bishop are popularly called ministers.

Miniver, the Siberian squirrel, which has fine white fur; also the fur itself.

Mink, a popular name for several species of quadrupeds, which are found in the N. parts of both hemispheres, and are valuable as fur-producing animals. The body is stouter than that of a stoat or weasel, and from 15 to 18 inches long. The scent glands are well-developed, and their secretion is only second in offensiveness to that of the skunk. It is aquatic in its habits, and feeds chiefly on fish and amphibious animals, preying largely also on smaller mammals. In the United States the mink is domesticated and trained as a rat-catcher.

Minneapolis, a city and county-seat of Hennepin co., Minn.; on both banks of the Mississippi river; the celebrated Falls of St. Anthony being in the heart of the city; 10 miles N. W. of St. Paul, with which it is connected by three lines of railway and electric cars; area, 53 square miles; pop. (1920) 380,582; (1930) 464,356. The city owns a system of water-works costing over \$5,000,000.

There are in all 790 miles of streets, of which 132 are paved. The sewerage system has a total length of 161 miles. The city is lighted by gas and electricity. The annual death rate averages 8.43 per 1,000. In proportion to population, Minneapolis has a greater park area than any other city in the United States. There are 22 parks with boulevards and parkways, beautifully laid out and with an extent of more than 15 miles. There are many bridges across the river, several being massive structures of stone and steel. The Great Northern Railway's stone viaduct is a magnificent specimen of engineering.

There are many beautiful residences and substantial business blocks. Among the more notable buildings are the new City Hall and Court House; the Northwestern Guaranty Loan Company; the Postoffice; the West Hotel; the Central High School; the Masonic Temple; Pillsbury Science Hall; the Syndicate Block; and the handsome private residence of W. D. Washburn. Besides these there are about 170 churches, several music halls, opera

houses, theaters, free dispensaries, hospitals, and numerous other charitable institutions.

Minneapolis is in the heart of an immense lumbering region, with an annual output of lumber from the various mills of about 300,000,000 feet. It is also the largest flour manufacturing place in the world, having 25 mills with a combined capacity of over 100,000 barrels a day. In 1925 there were 979 manufacturing plants, employing 31,730 wage earners, paying \$221,384,000 for raw materials and \$40,310,728 in wages, yielding combined products valued at \$338,823,703. The capital invested in the flour industry was \$25,557,517; value of products, \$85,132,444; capital in the lumber industry, \$3,565,019; products, \$4,460,655.

There are 190 buildings used for school purposes, including 7 high schools. The institutions for higher learning are the University of Minnesota, St. Thomas College (R. C.), Augsburg Theological Seminary (Scand. Luth.) and the Minneapolis Academy; and in the suburbs are Hamline University and Macalester College. There is a handsome public library, containing 160,000 volumes.

Minneapolis was settled on the W. bank of the Mississippi river in 1849. It received its charter as a city in 1867, and annexed St. Anthony, which had been founded earlier on the opposite bank, in 1873.

Minneapolis, The, a triple-screw, steel-protected cruiser belonging to the United States navy; 7,375 tons displacement; length, 411 feet, 7 inches; breadth, 58 feet, 2 inches; main draft, 22 feet, 6 inches; main battery, one 8-inch breech-loading rifle, two 6-inch and eight 4-inch rapid-fire guns; secondary battery, twelve 6-pounder and four 1-pounder rapid-fire guns, and four Gatlings; speed, 23.7 knots an hour; crew, 38 officers and 656 men; cost, \$2,690,000.

Minnehaha, Falls of, the name given to a beautiful cascade in the Minnehaha river near Minneapolis, Minn., the word Minnehaha meaning in the Indian language "Laughing Water." The cascade falls 60 feet into a most picturesque glen which opens on the Mississippi river. Longfellow has immortalized the name in his In-

dian maiden, the principal character in the well known and beautiful poem "Hiawatha."

Minnesingers, a class of German lyric poets of the 12th and 13th centuries, so called from love being the chief theme of their verse. They consisted almost exclusively of men of aristocratic birth. They sang their lyrics to the accompaniment of the viol, generally in honor of high-born dames. This remarkable poetical movement gradually merged into that other class of German lyric poets called Meistersingers.

Minnesota, a State in the North Central Division of the North American Union; admitted to the Union May 11, 1858; number of counties, 87; area, 84,682 square miles; pop. (1930) 2,566,445; capital, St. Paul.

The surface of Minnesota is undulating, with no mountains but having a broad, low elevation in the N., 280 miles in length. This elevation constitutes the watershed for three great basins, the Mississippi, the St. Lawrence and the Hudson bay. This elevation is about 1,000 feet above the S. of the State toward which it descends in a gradual slope. There are several elevated plains W. of the Mississippi, of which the Coteau des Prairies, and the Coteau de Grand Bois, are the most extensive. The principal river system is the Mississippi which has its source in this State. The Red river of the North forms over half the W. boundary line of the State. Many small streams flow into Lake Superior, and several discharge into Rainy Lake river, and the chain of lakes running along the N. boundary.

The State has numerous large lakes. The Mississippi river has numerous beautiful waterfalls, the largest being the Falls of St. Anthony, and the cascade of Minnehaha.

The soil is of alluvial deposit of great richness, and especially adaptable to wheat-growing. It is a rich loam from two to five feet in depth. The top covering of the land known as "black dirt" is due to the residuum of prairie fires and accumulations of decayed vegetation. The climate is less rigorous than usual in such latitudes. The winters are long, and the temperature even, with but little snow. The principal forest trees are

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